Issued February 1968

SOIL SURVEY

Pike County, Mississippi

UNITED STATES DEPARTMENT OF AGRICULTURE
Soil Conservation Service
In cooperation with
MISSISSIPPI AGRICULTURAL EXPERIMENT STATION

Major fieldwork for this soil survey was done in the period 1958–63. Soil names and descriptions were approved in 1964. Unless otherwise indicated, statements in the publication refer to conditions in the county in 1964. This survey was made cooperatively by the Soil Conservation Service and the Mississippi Agricultural Experiment Station; it is part of the technical assistance furnished to the Pike County Soil Conservation District.

HOW TO USE THIS SOIL SURVEY

THIS SOIL SURVEY of Pike County contains information that can be applied in managing farms and woodlands; in selecting sites for roads, ponds, buildings, or other structures; and in appraising the suitability of tracts of land for agriculture, industry, or recreation.

Locating Soils

All the soils of Pike County are shown on the detailed map at the back of this publication. This map consists of many sheets that are made from aerial photographs. Each sheet is numbered to correspond with numbers shown on the Index to Map Sheets.

On each sheet of the detailed map, soil areas are outlined and are identified by symbol. All areas marked with the same symbol are the same kind of soil. The soil symbol is inside the area if there is enough room; otherwise, it is outside and a pointer shows where the symbol belongs.

Finding and Using Information

The "Guide to Mapping Units" can be used to find information in the survey. This guide lists all of the soils of the county in alphabetic order by map symbol. It shows the page where each kind of soil is described, and also the page for the capability unit, woodland suitability group, and woodland range site in which the soil has been placed.

Individual colored maps showing the relative suitability or limitations of soils for many specific purposes can be developed by using the soil map and information in the text. Interpretations not included in the text can be developed by grouping the soils according to their suitability or limitations for a particular use. Translucent material can be used as an overlay over the soil map and colored to show soils that have the same limitation or suitability. For example, soils that have a slight limitation for a given use can be colored green, those with a moderate limitation can be colored yellow, and those with a severe limitation can be colored red.

Farmers and those who work with farmers can learn about use and management of the soils in the section that describes the soils and in the section that discusses management of the soils for various kinds of crops.

Foresters and others can refer to the section "Use of Soils as Woodland," where the soils of the county are grouped according to their suitability for trees.

Engineers and builders will find under "Engineering Uses of the Soils" tables that give engineering descriptions of the soils in the county and that name soil features that affect engineering practices and structures.

Scientists and others can read about how the soils were formed and how they are classified in the section "Formation and Classification of Soils."

Students and teachers can find information about soils and their management in various parts of the text, according to their particular interest.

Newcomers in Pike County may be especially interested in the section "General Soil Map," where broad patterns of soils are described. They may also be interested in the section "General Nature of the Area."

Cover picture: Fully stocked stand of second-growth longleaf pine on Providence silt loam.

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NOTICE TO LIBRARIANS

Series year and series number are no longer shown on soil surveys. See explanation on the next page.

Issued February 1968

EXPLANATION

Series Year and Series Number

Series year and number were dropped from all soil surveys sent to the printer after December 31, 1965. Many surveys, however, were then at such advanced stage of printing that it was not feasible to remove series year and number. Consequently, the last issues bearing series year and number will be as follows:

Series 1957, No. 23, Las Vegas and Eldorado Valleys Area, Nev.
Series 1958, No. 34, Grand Traverse County, Mich.
Series 1959, No. 42, Judith Basin Area, Mont.
Series 1960, No. 31, Elbert County, Colo. (Eastern Part)
Series 1961, No. 42, Camden County, N.J.
Series 1962, No. 13, Chicot County, Ark.
Series 1963, No. 1, Tippah County, Miss.

Series numbers will be consecutive in each series year, up to and including the numbers shown in the foregoing list. The soil survey for Tippah County, Miss., will be the last to have a series year and series number.

SOIL SURVEY OF PIKE COUNTY, MISSISSIPPI

BY ALLEN C. MILBRANDT AND L. BROOKS HALE, SOIL CONSERVATION SERVICE, UNITED STATES DEPARTMENT OF AGRICULTURE

UNITED STATES DEPARTMENT OF AGRICULTURE IN COOPERATION WITH THE MISSISSIPPI AGRICULTURAL EXPERIMENT STATION

PIKE COUNTY is in the southwestern part of Mississippi (fig. 1). It has a land area of 262,400 acres, or 410 square miles. Dairying, raising of beef cattle, and tree farming are the main enterprises. Cotton, once its leading crop, is now planted on less than 3,000 acres.

How This Survey Was Made

Soil scientists made this survey to learn what kinds of soils are in Pike County, where they are located, and how they can be used. They went into the county knowing they likely would find many soils they had already seen, and perhaps some they had not. As they traveled over the county, they observed steepness, length, and shape of slopes; size and speed of streams; kinds of native plants or crops; kinds of rock; and many facts about the soils. They dug many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down to parent material that has not been changed much by leaching or by roots of plants.

The soil scientists made comparisons among the profiles they studied, and they compared these profiles with those in counties nearby and in places more distant. They classified and named the soils according to nationwide, uniform procedures. To use this survey efficiently, it is necessary to know the kinds of groupings most used in a local soil classification.

Soils that have profiles almost alike make up a soil series. Except for different texture in the surface layer, all soils of one series have major horizons that are similar in thickness, arrangement, and other important characteristics. Each soil series is named for a town or other geographic feature near the place where a soil of that series was first observed and mapped. Iuka and Brookhaven, for example, are the names of two soil series. All of the soils in the United States having the same series name are essentially alike in those characteristics that affect their behavior in the natural, untouched landscape. Soils of one series can differ somewhat in texture of the surface soil and in slope, stoniness, or some other characteristic that affects use of the soils by man.

Many soil series contain soils that differ in texture of their surface layer. According to such differences in texture, separations called soil types are made. Within a series, all the soils having a surface layer of the same texture belong to one soil type. Saffell gravelly fine sandy loam is a soil type in the Saffell series.

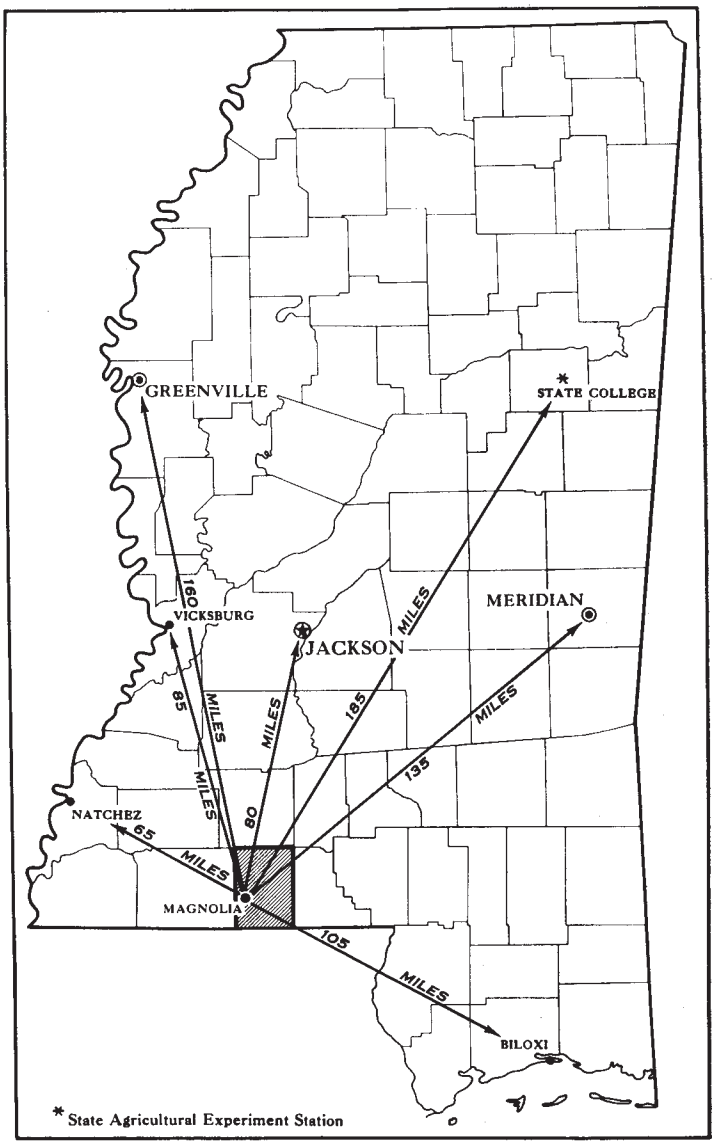

Figure 1.—**Location of Pike County in Mississippi.**

Some soil types vary so much in slope, degree of erosion, number and size of stones, or some other feature affecting their use, that practical suggestions about their management could not be made if they were shown on the soil map as one unit. Such soil types are divided into phases. The name of a soil phase indicates a feature that affects management. For example, Saffell gravelly fine sandy loam, 5 to 8 percent slopes, is one of several phases of Saffell gravelly fine sandy loam, a soil type that ranges from gently sloping to very steeply sloping.

After a guide for classifying and naming the soils had been worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, roads, trees, and other details that greatly help in drawing boundaries accurately. The soil map in the back of this survey was prepared from the aerial photographs.

The areas shown on a soil map are called mapping units. On most maps detailed enough to be useful in planning management of farms and fields, a mapping unit is nearly equivalent to a soil type or a phase of a soil type. It is not exactly equivalent, because it is not practical to show on such a map all the small, scattered bits of soil of some other kind that have been seen within an area that is dominantly of a recognized soil type or soil phase.

In preparing some detailed maps, the soil scientists have a problem of delineating areas where different kinds of soils are so intricately mixed and so small in size that it is not practical to show them separately on the map. Therefore, they show this mixture of soils as one mapping unit and call it a soil complex. Ordinarily, a soil complex is named for the major kinds of soils in it, for example, Ora-Ruston soils. Another kind of mapping unit is the undifferentiated group, which consists of two or more soils that may occur together without regularity in pattern or relative proportion. The individual tracts of the component soils could be shown separately on the map, but the differences between the soils are so slight that the separation is not important for the objectives of the soil survey. An example is Ochlockonee and Bruno soils. Also, on most soil maps, areas are shown that are so rocky, so shallow, or so frequently worked by wind and water that they scarcely can be called soils. These areas are shown on a soil map like other mapping units, but they are given descriptive names, such as Gullied land, and are called land types rather than soils.

While a soil survey is in progress, samples of soils are taken, as needed, for laboratory measurements and for engineering tests. Laboratory data from the same kinds of soils in other places are assembled. Data on yields of crops under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soils. Yields under defined management are estimated for all the soils.

But only part of a soil survey is done when the soils have been named, described, and delineated on the map, and the laboratory data and yield data have been assembled. The mass of detailed information then needs to be organized in such a way that it is readily useful to different groups of readers, among them farmers, managers of woodland, and engineers. Grouping soils that are similar in suitability for each specified use is the method of organization commonly used in soil surveys. On the basis of yield and practice tables and other data, the soil scientists set up trial groups. They test these groups by further study and by consultation with farmers, agronomists, engineers, and others, and then adjust these groups according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under present methods of use and management.

General Soil Map

The general soil map at the back of this survey shows, in color, the soil associations in Pike County. A soil association is a landscape that has a distinctive proportional pattern of soils. It normally consists of one or more major soils and at least one minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern.

A map showing soil associations is useful to people who want a general idea of the soils in a county, who want to compare different parts of a county, or who want to know the location of large tracts that are suitable for a certain kind of farming or other land use. Such a map is not suitable for planning the management of a farm or field, because the soils in any one association ordinarily differ in slope, depth, stoniness, drainage, and other characteristics that affect management.

The seven soil associations in Pike County are described in the following pages. The dominant soils in the northwestern part of the county formed in a mantle of loess 2 to 4 feet thick that overlies sandy coastal plain material. The most extensive soils in the rest of the county formed mainly in sand, clay, and gravel laid down during the Pliocene period, when the sea covered this land. Practically all of Pike County is in the southern Mississippi Valley Silty Uplands major land resource area.

1. Falaya-Waverly-Collins Association

Poorly drained to moderately well drained silty soils on flood plains

This soil association is on wide nearly level flats along the Tangipahoa River, upper Topisaw Creek, Terrys Creek, and Bala Chitto Creek. It consists of soils that formed in recent silty alluvium that washed from the loessal uplands. The association occupies about 10 percent of the county. Falaya soils make up about 50 percent of it, Waverly soils 25 percent, Collins soils 20 percent, and minor soils 5 percent.

The dominant soils of this association, the Falaya, Waverly, and Collins, are all on bottom lands. The Falaya soils are somewhat poorly drained. They have a very dark grayish-brown silt loam surface layer that overlies yellowish-brown silt loam. Mottled light-gray and brown silt loam begins at a depth of 10 to 20 inches.

The Waverly soils are poorly drained. They have a dark-gray silt loam surface layer, underlain by gray silt loam.

The Collins soils are moderately well drained. They have a dark grayish-brown silt loam surface layer that overlies brown silt loam. Mottled yellowish-brown and light-gray silt loam begins at a depth of 20 to 30 inches.

The minor soils of this association are the poorly drained Calhoun and the somewhat poorly drained Stough, which are on stream terraces; and the well-drained Ochlockonee and somewhat poorly drained Mantachie, which are on bottom lands.

Most of the farms on this association are small to medium in size and extend onto the adjacent loessal uplands. The farms are of the general type and are operated full time by the owner. Flooding limits the use of soils in this association. If they are adequately drained, however, they are suited to cotton, corn, hay, and pasture. Undrained areas are well suited to hardwoods. A large part of this association is covered with hardwood forest.

2. Mantachie-Iuka-Ochlockonee Association

Somewhat poorly drained to well drained loamy soils on flood plains

This soil association is on nearly level flats along the Bogue Chitto River and Topisaw Creek. It consists of soils that formed in recent loamy alluvium that washed from the loamy coastal plain uplands. The association occupies about 10 percent of the county. Mantachie soils make up about 50 percent of it, Iuka soils 25 percent, Ochlockonee soils 20 percent, and minor soils 5 percent.

The Mantachie are somewhat poorly drained soils on bottom lands. They have a dark grayish-brown fine sandy loam surface layer, which overlies brown sandy loam. Mottled gray and brown sandy loam begins at a depth of 10 to 20 inches.

The Iuka are moderately well drained soils on bottom lands. They have a dark grayish-brown sandy loam to silt loam surface layer, which overlies sandy loam to loam. Mottled gray and brown sandy loam to silt loam begins at a depth of 20 to 30 inches.

The Ochlockonee are well-drained soils on bottom lands. They have a dark grayish-brown loam, sandy loam, or silt loam surface layer, which overlies sandy loam or loam. Mottled brown and gray sandy loam begins at a depth of 30 to 40 inches.

The minor soils in this association are the poorly drained Calhoun and the somewhat poorly drained Stough, both of which are on stream terraces; the Prentiss, which are moderately well drained and are also on stream terraces; and the Ora, which are well drained and are on uplands.

The farms on this association are, for the most part, medium to large in size and extend onto the adjacent loessal uplands. There are general farms and beef cattle farms, which are operated full time by the owner. A large part of this association is in hardwoods. When adequately drained, these soils are used for row crops and pasture. Undrained areas on bottom lands are well suited to hardwoods.

3. Stough-Calhoun-Prentiss Association

Poorly drained to moderately well drained silty to loamy soils on stream terraces bordering the Bogue Chitto and Tangipahoa Rivers

This soil association is on stream terraces along the Bogue Chitto and Tangipahoa Rivers between the level bottom lands and the steeply sloping uplands. It occurs in bands that generally are ¼ to ½ mile wide. The association consists of soils formed in a mixture of loess and loamy coastal plain materials. It occupies about 5 percent of the county. Stough soils make up 50 percent of this association, Calhoun soils 25 percent, Prentiss soils 20 percent, and minor soils 5 percent.

The Stough are somewhat poorly drained soils on wide, nearly level to gently sloping flats. They have a dark grayish-brown silt loam surface layer, which overlies a yellowish-brown silt loam to loam subsoil. A fragipan begins at a depth of 14 to 18 inches.

The Calhoun are poorly drained soils on wide flats or in depressional areas. They have a gray silt loam surface layer that overlies a subsoil of gray and yellow silt loam to silty clay loam.

The Prentiss are moderately well drained soils on wide, nearly level to gently sloping flats. They have a brown silt loam surface layer that overlies a yellowish-brown silt loam to loam subsoil. A fragipan begins at a depth of 20 to 28 inches.

The minor soils are the well-drained to excessively drained Rumford, the well-drained Ora, which contain a fragipan and are on uplands, and the somewhat poorly drained Mantachie soils of the bottom lands.

The farms on this association are small to medium in size and extend onto the bottom lands and loessal uplands. The farms are mostly general, but there are also beef cattle farms, dairy farms, and tree farms. The general farms produce cotton, corn, small grain, and hay. Many farms also produce sweetpotatoes, sugarcane for sirup, watermelons, and vegetables for market. The wide, nearly level to gently sloping flats are mostly used for pasture and timber.

4. Providence-Ora-Ruston Association

Moderately well drained or well drained silty and loamy soils on broad ridges, and well drained loamy soils on side slopes

This association is marked by broad, gently sloping ridges, moderate slopes on the sides of these ridges, and narrow bottom lands along the many intermittent streams. The narrow bottoms are subject to flooding. The association covers about 2 percent of the county and is located in the extreme northwestern part. Providence soils make up about 35 percent of this association, Ora soils 35 percent, Ruston soils 20 percent, and minor soils 10 percent.

The Providence soils are on the broad gently sloping ridges. They have a dark grayish-brown to brown silt loam surface layer that overlies strong-brown silty clay loam. A silt loam fragipan begins at a depth of 20 to

24 inches. This fragipan is underlain by a mottled yellowish-red, strong-brown, and light-gray clay loam to sandy clay loam.

The well-drained Ora soils are on the side slopes, generally in an Ora-Ruston complex. They have a very dark grayish-brown fine sandy loam surface layer, which overlies yellowish-red clay loam to sandy clay loam. A loamy fragipan begins at a depth of 22 to 28 inches. This fragipan is underlain by a yellowish-red sandy loam mottled with yellow.

The well-drained Ruston soils are on the side slopes, generally in an Ora-Ruston complex. They have a brown to dark grayish-brown sandy loam surface layer and a yellowish-red sandy clay loam to clay loam subsoil.

Minor soils are the Brookhaven, which are moderately well drained silty soils that have a fragipan; and the Falaya, which are somewhat poorly drained silty soils of the bottom lands.

Most of this association is used for pasture and timber. The farms are small, are well managed, and are operated by the owner. They are general farms or beef cattle farms. The general farms produce cotton, corn, small grain, and hay. Many farms also produce vegetables and good stands of loblolly and shortleaf pines.

5. Brookhaven-Providence Association

Moderately well drained silty soils on gently sloping uplands

This soil association is on broad uplands located between drainageways leading to the Tangipahoa and Bogue Chitto Rivers. The uplands are loess covered and are dissected by many permanent and intermittent streams. The drainageways have narrow bottoms that flood. The association occupies about 10 percent of the county. Brookhaven soils make up about 60 percent of it, Providence soils 25 percent, and minor soils 15 percent.

The Brookhaven soils are on the nearly level and gently sloping broad ridges. They have a dark grayish-brown to grayish-brown silt loam surface layer and a strong-brown to yellowish-brown or grayish-brown silt loam subsoil. A fragipan of silt loam to clay loam begins at a depth of 16 to 20 inches.

The Providence soils are on the gently sloping ridges and moderately sloping sides of ridges. Their brown silt loam surface layer overlies a strong-brown silty clay loam subsoil. A fragipan begins at a depth of 20 to 24 inches, and below this is mottled yellowish-red, strong-brown, and light-gray clay loam to sandy clay loam.

Minor soils are the Ora, which are well-drained loams that have a fragipan; the Ruston, which are well-drained loamy soils; the Falaya, which are somewhat poorly drained silty soils of the bottom lands; and the Frost, which are poorly drained silty soils.

The parts of this association on the broad nearly level and gently sloping ridges, and on the moderately sloping sides of the ridges, are used mostly for timber and pasture. A small part of the association is cultivated. The farms, for the most part, are small, well managed, and operated by the owner. They are general farms, dairy farms, beef cattle farms, or tree farms. The general farms produce cotton, corn, small grain, and hay. Many farms also produce sweetpotatoes, cucumbers, watermelons, sugarcane for sirup, and vegetables for market.

6. Ora-Savannah-Ruston Association

Moderately well drained or well drained silty and loamy soils on narrow to broad gently sloping ridges, and well-drained loamy soils on side slopes

This soil association is on the coastal plain uplands in the southern part of Pike County. It consists of soils formed in sand, loam, and clay and is dissected by many intermittent and permanent streams. The association occupies about 30 percent of the county. Ora soils make up 40 percent of this association, Savannah soils 35 percent, Ruston soils 20 percent, and minor soils 5 percent. The ridgetops in this association are narrow to broad and gently sloping to nearly level. The side slopes are generally moderately sloping to steeply sloping. The bottoms along drainageways are narrow and subject to flooding.

The well-drained Ora soils are on the narrow to broad ridges and side slopes. They have a very dark grayish-brown fine sandy loam surface layer, which overlies a yellowish-red sandy loam mottled with yellow.

The moderately well drained Savannah soils are on the broad gently sloping to nearly level ridges. They have a grayish-brown to very dark grayish-brown silt loam to loam surface layer, which overlies a yellowish-brown to strong-brown silt loam to loam subsoil. A mottled yellow, brown, and gray fragipan of clay loam texture begins at a depth of 16 to 20 inches. This fragipan overlies mottled red, yellow, and gray loam to clay loam.

The well-drained Ruston soils are on moderately sloping to steep side slopes. They have a brown to dark grayish-brown sandy loam surface layer. The subsoil is red sandy clay loam that reaches to a depth of 54 inches. The subsoil is underlain by yellowish-red sandy loam.

The minor soils are the Frost, which are poorly drained soils of the uplands; the Saffell, well-drained gravelly sandy loam of the uplands; the Paden, moderately well drained soils of the uplands; the Mantachie, somewhat poorly drained sandy soils of the bottom lands; and the Falaya, somewhat poorly drained silty soils of the bottom lands.

Farms on this association, for the most part, are small and operated by the owner. They are general farms, dairy farms, beef cattle farms, or tree farms. The general farms produce cotton, corn, small grain, and hay. Many farms produce cucumbers, sugarcane for sirup, and vegetables for market. This association is used mostly for pasture and timber.

7. Ora-Ruston-Saffell-Cahaba Association

Well-drained loamy soils on narrow to broad gently sloping ridges, and well-drained loamy and gravelly soils on moderately steep to very steep side slopes

This soil association occurs throughout Pike County. It is on ridges and side slopes in the uplands adjacent to bottom lands and stream terraces that border the major

streams. These uplands have been dissected by many intermittent and permanent streams. The soils formed in coastal plain sand, clay, and gravel. This association occupies about 33 percent of the county. Ora soils make up about 45 percent of it, Ruston soils 15 percent, Saffell soils 15 percent, Cahaba soils 12 percent, and minor soils 13 percent.

The Ora soils are on the narrow to broad gently sloping ridges. They have a dark grayish-brown fine sandy loam surface layer, a yellowish-red clay loam to sandy clay loam subsoil, and a fragipan at a depth of 22 to 28 inches. The fragipan is underlain by sandy loam mottled with yellowish red and yellow.

The Ruston soils are on moderately steep side slopes. They have a brown to dark grayish-brown fine sandy loam surface layer, which overlies yellowish-red sandy clay loam. Yellowish-red sandy loam begins at a depth of about 54 inches.

The Saffell soils are on the steep to very steep side slopes. They have a very dark grayish-brown to dark grayish-brown gravelly sandy loam surface layer, which overlies yellowish-red gravelly sandy clay loam. Below the yellowish-red gravelly sandy clay loam subsoil is a yellowish-red to red gravelly sandy loam or gravelly loamy sand.

The Cahaba soils are on the steep to very steep side slopes. They have a brown to grayish-brown sandy loam surface layer, a yellowish-red sandy clay loam to clay loam subsoil, and yellowish-red sandy loam beginning at a depth of about 30 inches.

Minor soils are the Savannah, which are moderately well drained yellowish-brown loamy soils with a fragipan; the Providence, which are moderately well drained silty soils with a fragipan; the Iuka, which are moderately well drained loamy soils of the bottom lands; and the Falaya, which are somewhat poorly drained silty soils of the bottom lands.

Most farms of this association are medium to small and operated by the owner. They are general farms, dairy farms, or beef cattle farms. Many of the farms produce sweetpotatoes, sugarcane for sirup, and vegetables for market. The land on the narrow, gently sloping ridges is used mostly for pasture, or for hardwoods and loblolly, shortleaf, and longleaf pines.

Use and Management of Soils

In this section management of the soils of Pike County is discussed for tilled crops and tame pasture, and then for woodland range, woodland, wildlife, and engineering.

Two of the main problems of management in this county are soil fertility and control of water. Most of the soils in the county require fertilizer. Nitrogen is the main element needed, but some crops, particularly the legumes, need lime. The amount of lime required can be determined by testing the soil, as can also the need for phosphate and potash. Information on collecting soil samples for testing can be obtained from a local representative of the Soil Conservation Service, from the county agent, or from other local agricultural workers.

Runoff causes sheet or gully erosion. The degree of erosion depends on steepness of slopes; texture, structure, and permeability of the soil; and on vegetation. Practices that help to control water erosion are establishing terraces on slopes of not more than 8 percent; seeding waterways and outlets with suitable native and tame grasses; diverting water from slopes to grassed waterways; tilling and planting on the contour; planting cover crops; conserving crop residues; and installing drains or other water-control structures where needed.

Capability Groups of Soils

Capability classification is the grouping of soils to show, in a general way, their suitability for most kinds of farming. It is a practical classification based on the limitations of the soils, the risk of damage when they are used for the ordinary field crops or sown pastures, and the way they respond to treatment. The classification does not apply to horticultural crops, or to rice and other crops that have their own special requirements for economical production. The soils are classified according to degree and kind of permanent limitations, but without consideration of major and generally expensive landforming that would change the slope, depth, or other characteristics of the soils; and without consideration of possible major reclamation.

In the capability system, all kinds of soils are grouped at three levels, the capability class, the subclass, and the unit. These are discussed in the following paragraphs.

Capability Classes, the broadest groupings, are designated by Roman numerals I through VIII. As the numerals increase, they indicate progressively greater limitations and narrower choices for practical use. The classes are defined as follows:

Class I. Soils have few limitations that restrict their use. (No class I soils in Pike County.)

Class II. Soils have some limitations that reduce the choice of plants or require moderate conservation practices.

Class III. Soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.

Class IV. Soils have very severe limitations that restrict the choice of plants, require very careful management, or both.

Class V. Soils subject to little or no erosion but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife food and cover.

Class VI. Soils that have severe limitations that make them generally unsuited to cultivation without major reclamation and limit their use largely to pasture or range, woodland, or wildlife food and cover.

Class VII. Soils that have very severe limitations that make them unsuited to cultivation without major reclamation and that restrict their use largely to grazing, woodland, or wildlife.

Class VIII. Soils and landforms that have limitations that preclude their use for commercial plant production without major reclamation and

restrict their use to recreation, wildlife, or water supply, or to esthetic purposes. (No Class VIII soils in Pike County.)

CAPABILITY SUBCLASSES are soil groups within one class; they are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, shows that the chief limitation is climate that is too cold or too dry.

In class I there are no subclasses, because the soils of this class have few limitations. Class V can contain, at the most, only subclasses indicated by *w*, *s*, and *c*, because the soils in it are subject to little or no erosion, though they have other limitations that restrict their use largely to pasture, range, woodland, wildlife, or recreation.

CAPABILITY UNITS are soil groups within the subclasses. The soils in one capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity and other responses to management. Thus, the capability unit is a convenient grouping for making many statements about management of soils. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe–1 or IIIe–2. Thus, in one symbol, the Roman numeral designates the capability class, or degree of limitation, and the small letter indicates the subclass, or kind of limitation, as defined in the foregoing paragraph. The Arabic numeral specifically identifies the capability unit within each subclass.

Pike County has approximately 77,500 acres of subclass IIe land; 57,100 acres of subclass IIw land; 650 acres of subclass IIs land; 34,250 acres of subclass IIIe land; 9,400 acres of subclass IIIw land; 30,200 acres of subclass IVe land; 10,500 acres of subclass IVw land; 20,800 acres of subclass VIe land; and 21,000 acres of subclass VIIe land. In addition, there are almost 1,000 acres in water area in the county.

Management by capability units

The soils in a given capability unit have about the same limitations and susceptibility to damage and need about the same kind of management. In the following pages each capability unit is described, and management for each is suggested.

CAPABILITY UNIT IIe–1

This capability unit consists of moderately well drained to well drained, acid soils on uplands. These soils have a fragipan at a depth of 16 to 28 inches. Their surface layer is very friable fine sandy loam and silt loam, and their subsoil is sandy clay loam, clay loam, silty clay loam, or loam.

These soils can be worked easily, but they crust and pack if left bare, and a plowpan forms in them. Infiltration is moderate. Permeabiilty is moderate above the fragipan and slow in the fragipan. Root penetration is retarded in the fragipan. The content of organic matter and natural fertility are low to moderate. These soils are droughty in summer.

These soils occupy about 26 percent of the county. They are used mostly for pasture and trees but in small part for row crops. They are well suited to cotton, corn, sweetpotatoes, small grain, cucumbers, Coastal bermudagrass, bahiagrass, wild winter peas, vetch, annual lespedeza, white clover, adapted hardwoods, and pine trees.

These soils can be clean tilled continuously when erosion is adequately controlled. The hazard of erosion is slight to moderate. Response of crops to lime and fertilizer is moderate.

CAPABILITY UNIT IIe–2

The only soil in this capability unit is Providence silt loam, 2 to 5 percent slopes, eroded. It is a moderately well drained, acid soil on uplands; it has a fragipan at a depth of 20 to 24 inches. The surface layer is friable silt loam, and the subsoil is silty clay loam that has a silty fragipan. The fragipan is underlain by clay loam.

This soil can be worked easily, but it crusts and packs if left bare, and a plowpan forms in it. Infiltration is moderate. Permeability is moderate above the fragipan and slow in the fragipan. Root penetration is retarded in the fragipan. The content of organic matter is low, and natural fertility is medium. This soil is droughty in summer.

This soil occupies less than 1 percent of the county. Most of the acreage is used for pasture and trees, but a small part is in row crops. This soil is well suited to cotton, corn, sweetpotatoes, small grain, Coastal bermudagrass, bermudagrass, bahiagrass, wild winter peas, vetch, annual lespedeza, dallisgrass, white clover, adapted hardwoods, and pine trees.

This soil can be clean tilled continuously if erosion is adequately controlled. The hazard of erosion is slight to moderate. The response of crops to lime and fertilizer is good.

CAPABILITY UNIT IIe–3

The only soil in this capability unit is Ruston fine sandy loam, 2 to 5 percent slopes, eroded. It is a well-drained, acid soil that is on uplands. The surface layer is very friable fine sandy loam. The subsoil is sandy clay loam, and it is underlain by sandy loam.

This soil can be worked easily, but it tends to crust and pack if left bare. Infiltration is moderate to rapid. Permeability is moderate to rapid. The content of organic matter and natural fertility are low to medium.

This soil occupies less than 1 percent of the county. Most of the acreage is used for trees and row crops. A small acreage is in pasture. The soil is well suited to cotton, corn, sweetpotatoes, truck crops, small grain, bahiagrass, Coastal bermudagrass, bermudagrass, annual lespedeza, crimson clover, white clover, adapted hardwoods, and pine trees.

The hazard of erosion is slight to moderate. This soil can be clean tilled continuously if erosion is adequately controlled. The response of crops to lime and fertilizer is good.

CAPABILITY UNIT IIw–1

This capability unit consists of nearly level, moderately well drained, acid soils on bottom lands. The sur-

face layer is silt loam. It is underlain by a silt loam subsoil that has a gray, gleyed layer at a depth of 20 to 30 inches.

These soils can be worked easily, but they crust and pack if left bare, and a plowpan forms in them. Infiltration is moderate. Permeability is moderate above the gray, gleyed layer. Root penetration is retarded in the gleyed layer. The content of organic matter is low, and natural fertility is medium.

These soils occupy about 3 percent of the county. Most of the acreage is used for trees and pasture. A small acreage is in row crops. If adequately drained, these soils are well suited to cotton, corn, sugarcane, small grain, truck crops, tall fescue, bahiagrass, Coastal bermudagrass, dallisgrass, annual lespedeza, wild winter peas, white clover, adapted hardwoods, and loblolly pine.

Erosion is slight, but scouring and sedimentation occur in some areas. Flooding is a moderate hazard to growing row crops. Surface drainage is needed in low-lying areas. Excess surface water that stands on these soils can be removed by V- and W-type ditches and proper arrangement of rows. These soils can be clean tilled continuously if adequately drained. The response of crops to lime and fertilizer is good.

CAPABILITY UNIT IIw-2

The only soil in this capability unit is Falaya silt loam. It is a somewhat poorly drained, acid soil on bottom lands. The surface layer is friable silt loam. It is underlain by a silt loam subsoil that has a gray, gleyed layer at a depth of 10 to 20 inches.

This soil can be worked easily, but it crusts and packs if left bare, and a plowpan forms in it. Infiltration is moderate. Permeability is moderate above the gray, gleyed layer. Root penetration is retarded in this gleyed layer. The content of organic matter is low, and natural fertility is medium.

This soil occupies about 8 percent of the county. Most of the acreage is used for trees and pasture, and a small acreage is in row crops. This soil is well suited to corn, sugarcane, small grain, truck crops, tall fescue, bahiagrass, dallisgrass, annual lespedeza, wild winter peas, white clover, adapted hardwoods, and loblolly pine.

Flooding is a moderate hazard, and in some areas sedimentation and scouring. Surface drainage is needed in low-lying areas. Excess water that stands on this soil can be removed by V- and W-type ditches and proper arrangement of rows. This soil can be clean tilled continuously if adequately drained. The response of crops to lime and fertilizer is good.

CAPABILITY UNIT IIw-3

This capability unit consists of moderately well drained to well drained, acid soils that occur on bottom lands. The surface layer of these soils is very friable sandy loam, loam, or silt loam. The subsoil is sandy loam or loam to loamy sand.

Flooding is a moderate hazard on these soils, but the floodwater quickly recedes. In some areas sedimentation and scouring are hazards. Infiltration is moderate to high. Permeability is moderate to rapid throughout the subsoil. The content of organic matter and natural fertility are medium. These soils can be worked easily.

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These soils occupy 2 percent of the county. Most of the acreage is used for hardwoods and pasture. A small acreage is in row crops. If adequately drained, these soils are well suited to cotton, corn, truck crops, sugarcane, small grain, bermudagrass, bahiagrass, crimson clover, Coastal bermudagrass, annual lespedeza, wild winter peas, watermelons, white clover, adapted hardwoods, and loblolly pine.

Excess water can be removed by surface drainage, V- and W-type ditches, and proper arrangement of rows. The response of crops to lime and fertilizer is moderate.

CAPABILITY UNIT IIw-4

The only soil in this capability unit is Mantachie fine sandy loam. It is a somewhat poorly drained, acid soil on bottom lands. The surface layer is fine sandy loam, and the subsoil is fine sandy loam, sandy loam, or loam that has a gray, gleyed layer at a depth of 10 to 20 inches.

This soil can be worked easily but it crusts and packs if left bare. Infiltration is moderate. Permeability is moderate above the gleyed layer and slow in the gleyed layer. Root penetration is retarded in this gleyed layer. The content of organic matter and natural fertility are medium.

This soil occupies about 4 percent of the county. Most of the acreage is used for hardwoods and pasture, but a small part is in row crops. If adequately drained, this soil is well suited to corn, truck crops, sugarcane, small grain, bahiagrass, tall fescue, Coastal bermudagrass, annual lespedeza, wild winter peas, white clover, adapted hardwoods, and loblolly pine.

Flooding is a moderate hazard, particularly to row crops. Surface drainage is used in low-lying areas. Excess water that stands on this soil can be removed by W- and V-type ditches, dragline ditches, and proper arrangement of rows. The response of crops to lime and fertilizer is moderate.

CAPABILITY UNIT IIw-5

This capability unit consists of nearly level, moderately well drained to well drained, acid soils that have a fragipan at a depth of 16 to 28 inches and that occur on uplands. The surface layer of these soils is very friable fine sandy loam, loam, or silt loam. The subsoil is loam, sandy clay loam, clay loam, loam, or silt loam.

These soils can be worked easily, but they crust and pack if left bare, and a plowpan forms in them. Infiltration is moderate. Permeability is moderate down to the fragipan and slow in the fragipan. In the fragipan root penetration is retarded. These soils are somewhat droughty in the summer. Their content of organic matter is low, and their natural fertility is low to medium.

These soils occupy about 1 percent of the county. Most of their acreage is used for pasture and trees, but a small acreage is in row crops. Where surface drainage is adequate, these soils are well suited to cotton, corn, sweetpotatoes, small grain, cucumbers, Coastal bermudagrass, tall fescue, bahiagrass, wild winter peas, vetch, annual lespedeza, white clover, adapted hardwoods, and pine trees.

These soils can be clean tilled continuously if erosion and surface water are controlled. The hazard of erosion is slight. Tilling on the contour and sodding the water-

ways help to control erosion. The response of crops to lime and fertilizer is moderate.

CAPABILITY UNIT IIw–6

This capability unit consists of moderately well drained, acid soils that have a fragipan at a depth of 16 to 20 inches and that occur on uplands. The surface layer of these soils is silt loam. The subsoil is silty clay loam and silt loam underlain by silt loam, loam, or clay loam.

These soils can be worked easily, but they crust and pack if left bare, and a plowpan forms in them. Infiltration is moderate to slow. Permeability is moderate down to the fragipan and slow in the fragipan. In the fragipan root penetration is retarded. These soils are droughty in the summer and wet during periods of heavy rainfall.

The soils in this unit occupy 3 percent of the county. Most of the acreage is in pasture and trees; a small part is in row crops. If adequately drained, these soils are well suited to corn, small grain, Coastal bermudagrass, bermudagrass, bahiagrass, tall fescue, wild winter peas, vetch, annual lespedeza, white clover, adapted hardwoods, and pines.

The hazard of erosion is slight to moderate. Tilling on the contour and sodding of waterways are ways of controlling erosion. Proper arrangement of rows and drainage by V- or W-type ditches help to remove excess surface water. The response of crops to lime and fertilizer is moderate.

CAPABILITY UNIT IIs–1

The only soil in this capability unit is Rumford sandy loam, 0 to 3 percent slopes. It is a well drained to somewhat excessively drained, acid loamy soil. The surface layer is sandy loam, or in some places loamy sand, and the subsoil is sandy loam and loamy sand.

This soil can be worked easily. Infiltration is moderate to rapid. Permeability is rapid throughout the subsoil. The content of organic matter is low, and natural fertility is low. The soil is somewhat droughty.

This soil occupies less than 1 percent of the county. Most of the acreage is used for row crops and pasture. A small acreage is in trees. This soil is well suited to cotton, corn, peanuts, watermelons, small grain, Coastal bermudagrass, bermudagrass, bahiagrass, vetch, crimson clover, white clover, adapted hardwoods, and pines.

This soil can be clean tilled continuously if crop residue is left on its surface. Tilling on the contour and sodding of waterways help to control erosion. Response to lime and fertilizer is moderate.

CAPABILITY UNIT IIIe–1

The only soil in this capability unit is Brookhaven silt loam, 5 to 8 percent slopes, eroded. It is a moderately well drained, acid soil that has a fragipan at a depth of 16 to 20 inches and that occurs on uplands. The surface layer is silt loam, and the subsoil is silty clay loam to silt loam.

This soil can be worked easily, but it crusts and packs if left bare, and a plowpan forms in it. Infiltration is moderate. Permeability is moderate throughout the subsoil down to the fragipan and slow in the fragipan. This soil is somewhat droughty in the summer. Its content of organic matter is low, and natural fertility is medium.

This soil occupies less than 1 percent of the county. Most of the acreage is used for pasture and trees, but a small part is in row crops. This soil is well suited to cotton, corn, sweetpotatoes, soybeans, small grain, cucumbers, Coastal bermudagrass, bermudagrass, bahiagrass, tall fescue, vetch, annual lespedeza, crimson clover, white clover, adapted hardwoods, and pine trees.

Clean-tilled crops and close-growing crops can be grown for about equal periods of time if contour tillage, terracing, or similar practices are used. The response to lime and fertilizer is moderate. The hazard of erosion is moderate to severe. Returning crop residue to the soil and sodding of waterways help to control erosion.

CAPABILITY UNIT IIIe–2

The only soil in this capability unit is Ora fine sandy loam, 2 to 5 percent slopes, severely eroded. It is a moderately well drained, acid soil that has a fragipan at a depth of 20 to 24 inches and that occurs on uplands. The surface layer of this soil is fine sandy loam or sandy loam, and the subsoil is sandy clay loam, clay loam, or sandy loam.

This soil can be worked easily, but it crusts and packs if left bare, and a plowpan forms in it. Infiltration is moderate to slow. Permeability is moderate down to the fragipan and slow in the fragipan. Root penetration is retarded in the fragipan. This soil is somewhat droughty in summer. Its content of organic matter and natural fertility are low to medium.

This soil occupies less than 1 percent of the county. Most of the acreage was once used for row crops, but because it was so severely eroded, it is now in native grasses and pine trees. Only a small part is in row crops. This soil is well suited to cotton, corn, soybeans, grain sorghum, small grain, bermudagrass, bahiagrass, wild winter peas, vetch, annual and sericea lespedezas, truck crops, crimson clover, and pine trees.

Clean-tilled crops and close-growing crops can be grown for about equal periods of time if contour tillage, terracing, or similar practices are used. The response to lime and fertilizer is moderate. The hazard of erosion is severe. Returning crop residue to the soil and sodding of waterways help to control erosion.

CAPABILITY UNIT IIIe–3

This capability unit consists of moderately well drained to well drained, acid soils that have a fragipan at a depth of 16 to 28 inches and that occur on uplands. The surface layer is friable fine sandy loam, sandy loam, or silt loam. The subsoil is sandy clay loam, loam, or clay loam.

These soils can be worked easily, but they crust and pack if left bare, and a plowpan forms in them. Infiltration is moderate. Permeability is moderate throughout the subsoil down to the fragipan and slow in the fragipan. Root penetration is retarded in the fragipan. These soils are somewhat droughty in summer. Their content of organic matter and natural fertility are low to medium.

These soils occupy 9 percent of the county. Most of the acreage is used for pasture and trees, but a small part is in row crops. These soils are well suited to cotton, corn, soybeans, grain sorghum, small grain, bermuda-

Figure 2.—Santa Gertrudis cattle grazing on bahiagrass pasture on Ora fine sandy loam, 5 to 8 percent slopes, eroded. (Capability unit IIIe–3)

grass, bahiagrass (fig. 2), tall fescue, dallisgrass, sudangrass, wild winter peas, vetch, annual lespedeza, crimson clover, white clover, adapted hardwoods, and pine trees.

Clean-tilled crops and close-growing crops can be grown for equal periods of time if contour tillage, terracing, or similar practices are used. The response to lime and fertilizer is moderate. The hazard of erosion is moderate. Returning crop residue to the soil and sodding of waterways help to control erosion.

CAPABILITY UNIT IIIe–4

The only soil in this unit is Providence silt loam, 5 to 8 percent slopes, eroded. It is a moderately well drained, acid soil that has a fragipan at a depth of 20 to 24 inches and that occurs on uplands. The surface layer is silt loam. The subsoil is silty clay loam underlain by a clay loam or sandy clay loam.

This soil can be worked easily, but it crusts and packs if left bare, and a plowpan forms in it. Infiltration is moderate. Permeability is moderate throughout the subsoil down to the fragipan and slow in the fragipan. Root penetration is retarded in the fragipan. The content of organic matter is low, and natural fertility is medium.

This soil occupies about 2 percent of the county. Most of the acreage is in pasture, but a smaller part is in trees and row crops. This soil is well suited to cotton, corn, soybeans, grain sorghum, small grain, Coastal bermudagrass, common bermudagrass, bahiagrass, wild winter peas, vetch, annual and sericea lespedezas, crimson clover, white clover, sudangrass, millet, adapted hardwoods, and pine trees.

Clean-tilled crops and close-growing crops can be grown for equal periods of time if contour tillage, terracing, or similar practices are used. The hazard of erosion is moderate. Returning crop residue to the soil and sodding of waterways help to control erosion. The response to lime and fertilizer is good.

CAPABILITY UNIT IIIe–5

The only soil in this capability unit is Saffell gravelly fine sandy loam, 5 to 8 percent slopes. It is a well-drained, acid soil on uplands. The surface layer is a gravelly fine sandy loam. The subsoil is gravelly sandy clay loam underlain by gravelly sandy loam or gravelly loamy sand.

This soil can be worked easily. The amount of gravel in the soil is likely to damage cultivating tools. Infiltration is rapid. Permeability is rapid throughout the subsoil. This soil is somewhat droughty. Its content of organic matter and natural fertility are low.

This soil occupies less than 1 percent of the county. Most of the acreage is used for trees and pasture, but a

small part is in row crops. This soil is well suited to cotton, corn, soybeans, small grain, bermudagrass, bahiagrass, Coastal bermudagrass, sudangrass, millet, crimson clover, orchard crops, truck crops, adapted hardwoods, and pine trees.

Clean-tilled crops and close-growing crops can be grown for equal periods of time if contour tillage, terracing, or similar practices are used. The response to lime and fertilizer is fair. The hazard of erosion is moderate. Returning crop residue to the soil and sodding of waterways help to control erosion.

CAPABILITY UNIT IIIw–1

The only soil in this capability unit is Frost silt loam. It is a poorly drained, acid soil that occurs in small depressional areas on uplands. The surface layer is a gray silt loam, and the subsoil is gray silty clay loam or clay loam.

This soil can be worked easily when dry, but it crusts and packs if left bare. Infiltration is slow. Permeability is slow throughout the subsoil. Root penetration is restricted by a seasonal high water table. This soil can be too wet at times or too dry. Its content of organic matter is low, and natural fertility is low.

This soil occupies less than 1 percent of the county. Most of the acreage is in hardwoods and pasture. A very small part is in row crops. If adequately drained, the soil is well suited to corn, grain sorghum, tall fescue, bahiagrass, white clover, annual lespedeza, truck crops, sweetpotatoes, cucumbers, adapted hardwoods, and loblolly pine. Proper arrangement of rows and V- and W-type ditches help to remove excess surface water. The response to lime and fertilizer is fair.

CAPABILITY UNIT IIIw–2

This capability unit consists of somewhat poorly drained to moderately well drained, acid soils that have a fragipan at a depth of 14 to 28 inches and that occur on stream terraces. The surface layer of these soils is a silt loam to loam, and the subsoil is silt loam, loam, or silty clay loam.

These soils can be worked easily when dry. They crust and pack if left bare, and a plowpan forms in them. Infiltration is slow to moderate. Permeability is moderate throughout the subsoil down to the fragipan and slow in the fragipan. These soils are wet during periods of heavy rain, and dry and droughty in dry periods. Their content of organic matter and natural fertility are low.

These soils occupy 3 percent of the county. Most of the acreage is used for pasture, but a small part is in trees and row crops. If adequately drained, the soils are well suited to corn, soybeans, grain sorghum, small grain, bermudagrass, bahiagrass, tall fescue, sudangrass, annual lespedeza, white clover, adapted hardwoods, and pine trees.

The hazard of erosion is slight. Excess water on the surface of these soils is a severe problem and limits cultivation. Tilling on the contour, proper arrangement of rows, sodding of the waterways, and drainage are practices that remove excess water and control erosion. The response to lime and fertilizer is moderate.

CAPABILITY UNIT IVe–1

This capability unit consists of moderately well drained to well drained, acid soils that have a fragipan at a depth of 20 to 24 inches and that occur on uplands. The surface layer of these soils is fine sandy loam, sandy loam, or loam. The subsoil is sandy clay loam, clay loam, or sandy loam.

These soils can be worked easily, but they crust and pack if left bare, and a plowpan forms in them. Infiltration is slow. Permeability is moderate down to the fragipan and slow in the fragipan. Root penetration is retarded in the fragipan. These soils are droughty in summer. Their content of organic matter and natural fertility are low to medium.

These soils occupy 3 percent of the county. Most of the acreage was once used for row crops but now, as a result of erosion, is used for pasture and trees. A small part is still in row crops. These soils are well suited to cotton, corn, soybeans, grain sorghum, small grain, bermudagrass, bahiagrass, sudangrass, wild winter peas, vetch, crimson clover, white clover, adapted hardwoods, and pine trees.

The hazard of erosion is severe. Tilling on the contour, sodding of waterways, terracing, and similar practices help to control erosion. The response to lime and fertilizer is moderate.

CAPABILITY UNIT IVe–2

The only soil in this capability unit is Providence silt loam, 5 to 8 percent slopes, severely eroded. It is a moderately well drained, acid soil that has a fragipan at a depth of 20 to 24 inches and that occurs on uplands. The surface layer is friable silt loam. The subsoil is silty clay loam underlain by clay loam or sandy clay loam.

This soil can be worked easily when dry, but it crusts and packs if left bare, and a plowpan forms in it. Infiltration is slow. Permeability is moderate throughout the subsoil down to the fragipan and slow in the fragipan. Root penetration is retarded in the fragipan. This soil is droughty in summer. Its content of organic matter is low, and natural fertility is medium.

This soil occupies less than 1 percent of the county. Most of this soil was once used for crops, but now, as a result of severe erosion, it is used for pasture and trees. A small part is still in row crops. This soil is well suited to cotton, corn, soybeans, small grain, Coastal bermudagrass, bermudagrass, bahiagrass, vetch, wild winter peas, annual lespedeza, sudangrass, crimson clover, white clover, adapted hardwoods, and pine trees.

The hazard of erosion is severe. Tilling on the contour, sodding of waterways, terracing, and similar practices help to control erosion. The response to lime and fertilizer is moderate.

CAPABILITY UNIT IVe–3

The only soil in this capability unit is Ruston fine sandy loam, 8 to 12 percent slopes, eroded. It is a well-drained, acid soil on uplands. The surface layer is very friable fine sandy loam and sandy loam. The subsoil is sandy clay loam and clay loam underlain by sandy loam.

This soil can be worked easily, but it tends to crust and pack if left bare. Infiltration is moderate to high. Permeability is moderate to rapid throughout the sub-

soil. The content of organic matter and natural fertility are low to medium.

This soil occupies about 8 percent of the county. Most of the acreage is used for pasture and trees, but a small part is in row crops. This soil is well suited to cotton, corn, soybeans, grain sorghum, small grain, truck crops, Coastal bermudagrass, bermudagrass, bahiagrass, sudangrass, millet, vetch, wild winter peas, lespedeza, crimson clover, white clover, orchard crops, tung, adapted hardwoods, and pine trees.

The hazard of erosion is severe. Tilling on the contour, sodding of waterways, terracing, and similar practices help to control erosion. The response to lime and fertilizer is good.

CAPABILITY UNIT IVw–1

The only soil in this capability unit is Bibb loam. It is a poorly drained, acid soil on bottom lands. The surface layer is friable loam or fine sandy loam, and the subsoil is gray loam, sandy loam, or fine sandy loam.

This soil can be worked during dry periods. Infiltration is slow. Permeability is slow throughout the subsoil. Root penetration is retarded by a high water table. This soil is wet most of the year, but it is droughty during the dry summer months. Its content of organic matter and natural fertility are low.

This soil occupies less than 1 percent of the county. Most of the acreage is in hardwoods and pasture, but a very small part is in row crops. If adequately drained, this soil is well suited to corn, millet, grain sorghum, sudangrass, bahiagrass, tall fescue, lespedeza, Ladino clover, white clover, red clover, adapted hardwoods, and loblolly pine.

The hazard of flooding is very severe on this soil. Excess water can be removed by V- or W-type ditches, proper arrangement of rows, and dragline ditches. Clean-tilled crops and cover crops can be grown continuously if this soil is adequately drained. The response to lime and fertilizer is fair.

CAPABILITY UNIT IVw–2

The only soil in this capability unit is Calhoun silt loam. It is a poorly drained, acid soil on stream terraces. The surface layer is friable silt loam, and the subsoil is silt loam, silty clay loam, or loam.

This soil can be worked easily, but it crusts and packs if left bare, and a plowpan forms in it. Infiltration is slow. Permeability is slow throughout the subsoil. Root penetration is restricted by a high water table. The content of organic matter and natural fertility are low to medium.

This soil occupies less than 1 percent of the county. Most of the acreage is in hardwoods and pasture, but a small part is in row crops. If adequately drained, this soil is well suited to corn, rice, small grain, soybeans, bermudagrass, tall fescue, dallisgrass, bahiagrass, wild winter peas, white clover, adapted hardwoods, and loblolly pine.

The hazard of erosion is slight. Flooding and excess surface water are hazards. Excess water can be removed by proper arrangement of rows, V- and W-type ditches, dragline ditches, and field laterals. The response to lime and fertilizer is fair.

CAPABILITY UNIT IVw–3

This capability unit contains one mapping unit named Ochlockonee and Bruno soils. These soils are well drained to somewhat excessively drained, acid soils on bottom lands. Their surface layer is sandy loam, loam, loamy sand, or silt loam. The subsoil is sandy loam, loam, sand, or loamy sand.

These soils can be worked easily. Infiltration is moderate to rapid. Permeability is moderate to rapid throughout the subsoil. These soils are droughty in the summer. Their content of organic matter and natural fertility are low.

These soils occupy less than 1 percent of the county. Most of the acreage is used for hardwoods, but a small part is in row crops. If adequately drained, these soils are well suited to bahiagrass, Coastal bermudagrass, bermudagrass, peanuts, watermelons, sweetpotatoes, adapted hardwoods, and loblolly pine.

The hazard of flooding is severe. Excess water can be removed by dragline ditches, V- and W-type ditches, field laterals, and proper arrangement of rows. The response to lime and fertilizer is moderate.

CAPABILITY UNIT IVw–4

The only soil in this capability unit is Waverly silt loam. It is a poorly drained, acid soil on bottom lands. The surface layer is friable silt loam, and the subsoil is silt loam.

This soil can be worked easily when dry, but it crusts and packs if left bare, and a plowpan forms in it. Infiltration is slow. Permeability is slow throughout the subsoil. Root penetration is retarded by the high water table. The content of organic matter and natural fertility are low to medium.

This soil occupies about 3 percent of the county. Most of the acreage is used for hardwoods and pasture, but a small part is in row crops. If adequately drained, this soil is well suited to corn, soybeans, bermudagrass, tall fescue, bahiagrass, annual lespedeza, white clover, adapted hardwoods, and loblolly pine.

The hazard of flooding is severe. Excess surface water can be removed by dragline ditches (fig. 3), V- and W-type ditches, diversion ditches, field laterals, and proper arrangement of rows. The response to lime and fertilizer is fair.

Figure 3.—**Dragline drainage ditch on Waverly silt loam. (Capability unit IVw–4)**

CAPABILITY UNIT VIe-1

This capability unit consists of well-drained, acid soils on uplands. The surface layer is very friable fine sandy loam or sandy loam. The subsoil is sandy clay loam, clay loam, or sandy loam.

These soils can be worked easily, but they crust and pack if left bare. Infiltration is moderate. Permeability is moderate to rapid throughout the subsoil. The content of organic matter and natural fertility are low to medium.

These soils occupy 7 percent of the county. Most of the acreage is used for trees and pasture, but a small part is in row crops. These soils are well suited to bermudagrass, bahiagrass, sudangrass, millet, wild winter peas, crimson clover, orchard crops, adapted hardwoods, and pines.

The hazard of erosion is moderate to severe. Permanent vegetation is needed to protect these soils from further erosion. The response to lime and fertilizer is moderate.

CAPABILITY UNIT VIe-2

The only soil in this capability unit is Saffell gravelly fine sandy loam, 8 to 17 percent slopes. It is a well drained to somewhat excessively drained, acid soil on uplands. The surface layer is very friable gravelly fine sandy loam or gravelly loamy sand. The subsoil is gravelly sandy clay loam underlain by gravelly sandy loam or gravelly loamy sand.

This soil can be worked easily. Infiltration is moderate to high. Permeability is moderate to rapid throughout the subsoil. The content of organic matter and natural fertility are low. Gravel in the surface layer of this soil is likely to damage cultivating equipment.

This soil occupies nearly 2 percent of the county. Most of it is used for trees, but a small part is in pasture and row crops. It is well suited to bahiagrass, bermudagrass, crimson clover, adapted hardwoods, and pine trees.

The hazard of erosion is severe. Permanent vegetation is needed to protect this soil from further erosion. Rapid runoff and severe erosion occur when this soil is cultivated. The response to lime and fertilizer is fair.

CAPABILITY UNIT VIIe-1

Only Gullied land is in this capability unit. It is in moderately sloping to very steep areas that are very severely eroded and gullied. The surface layer varies, and the subsoil ranges from sand to clay loam.

Gullied land occupies about 1 percent of the county. Runoff is rapid. The content of organic matter is low.

The hazard of erosion is severe but can be reduced by trees or other permanent vegetation. Pine trees grow especially well on this land.

CAPABILITY UNIT VIIe-2

This capability unit consists of well drained to somewhat excessively drained, acid soils on uplands. The surface layer is fine sandy loam, sandy loam, or gravelly fine sandy loam. The subsoil is sandy clay loam, clay loam, or gravelly sandy clay loam underlain by gravelly loamy sand or sandy loam.

Infiltration is moderate to rapid in these soils. Permeability is moderate to rapid throughout the subsoil. The content of organic matter and the natural fertility are low to medium.

These soils occupy about 8 percent of the county. Most of the acreage is used for trees, but a small part is in pasture and row crops.

The hazard of erosion is very severe, but can be reduced by trees or other permanent vegetation. These soils are well suited to adapted hardwoods and pine trees.

Estimated Yields

Table 1 shows estimated average acre yields of the principal crops on the soils in Pike County under two levels of management. In columns A are average yields based on management now prevalent in the county, and in columns B, average yields under a higher level of management than is commonly practiced in the county. The yields in columns A are generally 20 to 50 percent less than those in columns B.

The estimates are based on yields obtained in long-term experiments; on observations made during the course of the survey; and on information received from agronomists, technicians of the Soil Conservation Service, and the county agent, all of whom have had experience with the crops and soils of Pike County. Data for yields obtained on experimental plots were adjusted to reflect the combined effects of slope, weather, and levels of management. If such data were not available, estimates were made by using available data for similar soils.

All estimates are based on average rainfall in the area over a long period of time, and no irrigation. For alluvial soils, it is assumed that there is no hazard of overflow; hence, the effects of flooding on these soils must be considered locally. Estimates are not given if the soil is not commonly used for a specific crop or is not suited to that crop.

Under the management used to obtain the yields given in columns A, some of the practices listed for the high level of management are used, but the operator neglects to use two or more of them. For example, he prepares the seedbed adequately and cultivates the crop properly, but he neglects to use the right kind and amount of fertilizer, or he does not use practices to control insects. As a result, the yields he obtains are lower than those obtained where practices suggested for a high level of management are used.

To obtain yields shown in columns B, the following management is practiced and is applied for all crops:

1. Lime and fertilizer are applied in the amounts indicated by soil tests and field trials.
2. Varieties of crops are grown that make high yields and that are suited to the area.
3. The seedbed is adequately prepared.
4. Planting or seeding the crop is done by suitable methods at the right time and rate.
5. Legumes are inoculated.
6. Shallow cultivation of row crops is practiced.
7. Weeds, insects, and diseases are controlled.
8. Cropping systems are applied to help protect the soils from erosion.
9. According to need, grassed waterways are established, tilling on the contour is practiced, terraces are constructed, the soils are drained, and

close-growing crops are included in the cropping system.

10. The soils are protected from overgrazing.

In addition to the foregoing practices that apply generally to all the crops grown, the following specific practices are applied for specific crops to obtain the yields used in table 1.

Cotton: Under the level of management needed to obtain the yields shown in columns B, 60 to 90 pounds of nitrogen per acre is applied, and 33 pounds of nitrogen per acre is used as a side dressing. In addition, 80 to 120 pounds of phosphate and 60 to 90 pounds of potash per acre are added. All applicable practices suggested for growing crops under a high level of management are used.

For the yields obtained under columns A, the operator has applied part of the practices suggested under the high level of management, but he neglected to apply one or

TABLE 1.—*Estimated average acre yield of the principal crops under two levels of management*

[Yields in columns A are obtained under a level of management now prevalent in the county. Yields in columns B are obtained under a high level of management. Absence of a yield indicates crop is poorly suited to the soil and is seldom grown on it. Estimated yields are based on average rainfall over a long period of time, without irrigation]

Soil	Cotton (lint)		Corn		Oats		Millet for silage		Bahiagrass for hay		Pasture			
											Bermudagrass-legume		Bahiagrass-legume	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
	Lb.	*Lb.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Tons*	*Tons*	*Tons*	*Tons*	*Cow-acre-days* [1]	*Cow-acre-days* [1]	*Cow-acre-days* [1]	*Cow-acre-days* [1]
Bibb loam			15	50	15	25			2.2	4.3	110	200	138	264
Brookhaven silt loam, 0 to 2 percent slopes	325	600	35	75	25	55	1.5	3.0	1.0	3.0	177	261	192	275
Brookhaven silt loam, 2 to 5 percent slopes	340	625	35	75	25	55	1.5	3.0	1.0	3.0	177	261	192	275
Brookhaven silt loam, 2 to 5 percent slopes, eroded	325	600	30	60	20	50	1.5	3.0	1.0	3.0	177	261	192	275
Brookhaven silt loam, 5 to 8 percent slopes, eroded	225	400	15	40	15	30	1.5	3.0	1.0	3.0	177	261	192	275
Cahaba fine sandy loam, 17 to 35 percent slopes									1.0	2.0	100	160	100	200
Cahaba fine sandy loam, 17 to 35 percent slopes, severely eroded									.5	1.5	70	130	80	160
Calhoun silt loam			15	50	15	25			1.6	3.5	71	137	120	197
Collins silt loam	380	725	40	95	30	65	3.0	5.5	2.2	4.3	195	324	211	354
Collins silt loam, local alluvium	380	725	40	95	30	65	3.0	5.5	2.2	4.3	195	324	211	354
Falaya silt loam	375	650	40	85	20	55	3.0	4.5	2.0	4.0	185	318	200	345
Frost silt loam			15	40	15	25			1.5	2.5	159	231	180	258
Gullied land														
Iuka and Ochlockonee soils [2]	380	725	40	95	30	65	2.5	5.0	2.5	5.0	120	225	165	300
Kinsey soils	350	700	40	90	30	55	3.0	5.5	2.2	4.3	195	324	211	354
Mantachie fine sandy loam	375	650	40	85	20	55	2.5	5.0	2.5	5.0	120	225	165	300
Ochlockonee and Bruno soils														
Ora fine sandy loam, 0 to 2 percent slopes	325	625	35	75	25	55	2.0	3.5	3.0	4.75	100	220	140	270
Ora fine sandy loam, 2 to 5 percent slopes	325	625	30	70	20	50	2.0	3.5	3.0	4.75	100	220	140	270
Ora fine sandy loam, 2 to 5 percent slopes, eroded	275	600	30	70	20	50	2.0	3.5	3.0	4.75	100	220	140	270
Ora fine sandy loam, 2 to 5 percent slopes, severely eroded	250	500	25	65	20	50	1.0	2.5	1.5	3.0	80	180	100	200
Ora fine sandy loam, 5 to 8 percent slopes, eroded	325	625	35	75	25	55	2.0	3.5	3.0	4.75	100	220	140	270
Ora fine sandy loam, 5 to 8 percent slopes, severely eroded	150	300	20	45	15	35	1.0	2.5	1.0	2.0	80	160	90	170
Ora-Ruston complex, [2] 5 to 8 percent slopes, eroded	300	600	35	75	25	55	2.0	3.5	3.0	4.75	100	220	140	270
Ora-Ruston complex, [2] 5 to 8 percent slopes, severely eroded	200	450	20	50	15	40	1.0	2.5	1.5	3.0	80	170	100	200
Paden silt loam, 0 to 2 percent slopes	325	600	35	75	25	55	1.8	3.3	2.0	4.0	110	200	138	240
Providence silt loam, 2 to 5 percent slopes, eroded	400	650	30	75	25	60	2.0	3.5	2.5	4.0	189	297	203	306
Providence silt loam, 5 to 8 percent slopes, eroded	350	600	20	65	20	50	2.0	3.5	2.5	4.0	189	297	203	306
Providence silt loam, 5 to 8 percent slopes, severely eroded	275	450	15	40	15	35	1.0	2.5	1.5	2.5	150	220	153	240
Rumford sandy loam, 0 to 3 percent slopes	450	750	60	100	38	80	3.0	4.5	3.5	5.5	120	225	150	300
Ruston fine sandy loam, 2 to 5 percent slopes, eroded	400	650	30	75	25	60	2.0	3.5	2.0	4.0	132	243	159	276
Ruston fine sandy loam, 8 to 12 percent slopes, eroded	300	500	15	50	15	40	2.0	3.5	2.0	4.0	132	243	159	276

See footnotes at end of table.

TABLE 1.—*Estimated average acre yield of the principal crops under two levels of management*—Continued

Soil	Cotton (lint)		Corn		Oats		Millet for silage		Bahiagrass for hay		Pasture			
											Bermudagrass-legume		Bahiagrass-legume	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
	Lb.	*Lb.*	*Bu.*	*Bu.*	*Bu.*	*Bu.*	*Tons*	*Tons*	*Tons*	*Tons*	*Cow-acre-days* [1]	*Cow-acre-days* [1]	*Cow-acre-days* [1]	*Cow-acre-days* [1]
Ruston fine sandy loam, 8 to 12 percent slopes, severely eroded									1.0	2.0	100	200	100	210
Ruston fine sandy loam, 12 to 17 percent slopes, eroded									2.0	3.0	125	235	150	265
Ruston fine sandy loam, 12 to 17 percent slopes, severely eroded									1.0	2.0	100	160	100	200
Saffell gravelly fine sandy loam, 5 to 8 percent slopes	250	500	30	60	25	50	2.0	3.5	.8	2.0	110	200	140	256
Saffell gravelly fine sandy loam, 8 to 17 percent slopes									.8	2.0	80	170	124	177
Saffell gravelly fine sandy loam, 17 to 35 percent slopes									.5	1.5	60	140	90	145
Savannah silt loam, 2 to 5 percent slopes, eroded	340	625	35	75	25	55	1.8	3.3	2.0	4.0	120	200	138	240
Savannah silt loam, 5 to 8 percent slopes, eroded	325	600	30	60	20	50	1.8	3.3	2.0	4.0	120	210	138	240
Stough silt loam, 0 to 2 percent slopes	300	500	35	75	25	50	1.8	3.3	2.0	4.0	110	200	138	240
Stough-Prentiss complex, 2 to 5 percent slopes	350	550	35	80	25	50	1.8	3.3	2.0	4.0	110	220	140	240
Waverly silt loam			15	45	15	25			1.5	3.0	90	200	95	205

[1] Cow-acre-days is a term used to express the carrying capacity of pasture. It is the number of animal units carried per acre multiplied by the number of days the pasture is grazed during a single grazing season without injury to the sod. An acre of pasture that provides 30 days of grazing for 2 cows has a carrying capacity of 60 cow-acre-days.

[2] Estimated yields for these two soils are very similar.

more of these practices, or he did not apply the suggested practices well.

Corn: Under the level of management needed to obtain the yields shown in columns B, 90 to 120 pounds of nitrogen, 49 to 90 pounds of phosphate, and 48 to 90 pounds of potash per acre are added; in addition, 16 to 30 pounds of nitrogen per acre is added when the corn is knee high. Also, the crop is seeded at the rate of 10,000 to 12,000 plants per acre, and all applicable practices suggested for growing crops under a high level of management are used.

For the yields obtained under columns A, the operator applies only 12 to 24 pounds of nitrogen, 12 to 24 pounds of phosphate, and 12 to 24 pounds of potash per acre, and adds 10 to 15 pounds of nitrogen per acre as a side dressing. Corn is planted at the rate of 4,000 to 8,000 plants per acre, and there may be skips in the rows. In addition, corn from the crib may be used for planting, the crop may be planted late, and cultivation may be neglected.

Oats: Under the level of management needed to obtain the yields shown in columns B, oats are seeded in September on a seedbed that has been left fallow, and 60 pounds of nitrogen, 100 pounds of phosphate, and 60 pounds of potash per acre are added. The soil is limed so that it has a pH of 6.0 when tested. The oats are grazed, but grazing is controlled. Usually, in December or January, 33 pounds of nitrogen per acre is added as a topdressing. The cattle are removed from the field from March 1 to March 15, and an additional 33 pounds of nitrogen per acre is added as a topdressing.

For the yields obtained in columns A, the operator has applied part of the practices suggested under the high level of management, but he neglected to apply one or more of the practices. For example, he did not use the kinds and amounts of fertilizer and lime suggested. Or he may have planted the crop late, failed to use varieties of crops suited to the soil and resistant to disease, or failed to control grazing.

As a rule, oats are grazed until about March 1. They are then allowed to grow for grain or be cut for hay. A method of approximating the yield of the oat crop as hay is to divide the number of bushels of oats by 31. The result will be the approximate yield of hay, in tons.

Hay crops and permanent pastures: The general practice in this county is to cut hay from the surplus grasses in a permanent pasture, and to cut millet for silage after temporary grazing.

Under the level of management used to obtain the yields of forage given in columns B, the pasture or hay crop is fertilized annually. Grasses receive 60 to 90 pounds of nitrogen, phosphate, and potash per acre according to the results of soil tests. For legumes, the soils are limed to a pH of 6.5, and phosphate and potash are applied according to the results of the soil tests. In addition, if mowing is needed, the areas are clipped two or three times annually and are sprayed to control weeds. The pastures are fenced so that grazing can be regulated. The pastures and areas from which hay crops are harvested are renovated and reseeded when necessary.

For the yields obtained under columns A, pastures and hay crops are fertilized infrequently, possibly only as often as once every 3 to 4 years; legumes receive some lime, phosphate, and potash; the pastures are clipped or sprayed occasionally to help control weeds, but no well-defined system of managing grazing is practiced. Pastures and areas where hay crops are grown are renovated and reseeded infrequently. Occasionally, the soils are tested to determine need for lime, phosphate, and potash.

Use of Soils for Woodland Range [1]

This section provides facts about woodland in Pike County and suggestions on use of this woodland for grazing. There are about 142,000 acres of woodland in Pike County, which can be divided as 51,600 acres of pine, 64,600 acres of pine-oak and oak-hickory, and 25,800 acres of bottom-land hardwoods. Of this total acreage of woodland, about 40 percent is grazed.

About 28,000 head of cattle are on the 1,500 farms in this county. Approximately 10 percent of these cattle get most, or at least part, of their grazing from woodland range. The woodland is grazed mostly to supplement improved pastures. The county has a stock law, and most of the woodland is fenced.

The grazing cattle reduce the fire hazard in the woodlands and control unwanted hardwoods, brush, and vines. Nevertheless, they can damage the better species of hardwood seedlings by selective browsing. The objectives of good management are to avoid such damage and to sustain or improve production of forage for livestock without interfering with production of the primary crop, which is timber. Such management needs to take into account differences among the soils, and for this reason the soils of the county have been placed in woodland range sites.

Woodland range sites

The soils of this county have been placed in five woodland range sites. The soils of each site are different from the soils of other sites in that they produce a significantly different kind and amount of climax, or original, vegetation. The names of the soils in a woodland range site can be learned from the "Guide to Mapping Units" in the back part of this survey.

The combination of plants that originally grew on each woodland range site before the area was disturbed by grazing or fire is called the climax vegetation. The climax vegetation is generally the most productive combination of plants that will grow on a given site. On each site the native vegetation consists of three classes of plants—*decreasers*, *increasers*, and *invaders*. Decreasers and increasers are climax plants. Decreasers are the most heavily grazed of the plants on the range site, and they are the first to disappear as the result of overgrazing. Increasers withstand grazing better than the decreasers, or they are less palatable to livestock. Therefore, they increase and replace the decreasers. Invaders are plants that become established after the climax vegetation has been reduced by grazing.

[1] DOUGLAS E. POST, woodland conservationist, helped prepare this section.

Forage production in the woodland sites is dependent on (1) the kind and amount of plants grown on the site, (2) the amount of shade, and (3) the distribution of rainfall. The forage condition, or range condition, of a woodland site is derived by comparing the kind and amount of understory vegetation in relation to the amount of original, or climax, vegetation the site is capable of supporting. A woodland site is in excellent condition if 75 to 100 percent of the climax vegetation is present; in good condition if 51 to 75 percent is present; in fair condition if it has only 26 to 50 percent; and in poor condition if the climax vegetation is less than 26 percent.

Woodland in excellent forage condition has mainly tall growing perennial grasses. On woodland in good condition there is a mixture of tall-growing and short-growing perennial grasses; in woodland in fair condition there are mostly low-growing perennial grasses, annual grasses, and weeds; and in woodland in poor condition, mostly annual grasses and weeds.

The amount of shade on a woodland site affects production of forage. Shade is classified by density as follows: *dense*, 76 to 100 percent shade; *medium*, 51 to 75 percent shade; *sparse*, 26 to 50 percent; and *open*, under 26 percent shade. Little or no forage is able to grow where there is a dense timber canopy. A medium timber canopy produces about 55 percent as much as an open canopy, and a sparse timber canopy 80 percent as much as an open canopy.

Production of forage in woodland follows definite cycles according to growth of the trees. Following the cutting of a mature stand, grasses rapidly become dominant. As young seedlings grow, however, more and more shade is cast on the ground. The shallow-rooted, low-growing grasses are shaded out first. The broad-leaved, deep-rooted perennials are the last to go. Little forage is produced under a stand of timber 15 to 25 years of age. Thereafter, as the timber is thinned to provide growing room for the remaining trees, forage production increases. Forage production remains fairly stable under mature, fully stocked stands. Generally, stands of longleaf pine produce the most forage, and stands of loblolly or shortleaf pine are second.

WOODLAND RANGE SITE 1

Level to strongly sloping lower coastal plain hills: This woodland range site consists of loamy, level to strongly sloping soils that formed in unconsolidated coastal plain materials consisting of sand, silt, gravel, and clay. These are somewhat poorly drained to well drained soils. Infiltration of moisture is rapid to slow, and internal movement of water is rapid to slow. The available moisture capacity is moderate to low. These soils are low to medium in natural fertility and low in content of organic matter. They are strongly acid to very strongly acid. Runoff is slow to moderate, and the hazard of erosion is slight to severe.

The overstory on this site is longleaf, loblolly, and shortleaf pines, among which the loblolly pines are dominant. Forming the understory, sometimes one so dense that growth of grass is restricted, are southern red, Shumard, turkey, blackjack, water, white, and post oaks; sweetgum, blackgum, black cherry, persimmon, and hickory. The shrubs in the understory are chiefly gall-

berry, French mulberry, yaupon, huckleberry, dogwood, and vines.

When the site has its potential, or climax, vegetation, the ground cover is about 80 percent decreasers, 17 percent increasers, and 3 percent invaders. The principal decreasers are pinehill bluestem and little bluestem, which are dominant in the stand, and switchgrass, indiangrass, longleaf uniola, and perennial tickclover.

The most common increasers are low panicum, broomsedge bluestem, perennial three-awn, honeysuckle, and grassleaf golden-aster. Other common increasers are dropseed, carpetgrass, and beaked panicum. Increase of carpetgrass in the stand indicates severe overuse of the site. Invading plants are annual grasses and annual and perennial weeds.

When this site is in excellent condition, optimum production, in areas without an overstory, is about 3,000 pounds of air-dry forage annually.

WOODLAND RANGE SITE 2

Strongly sloping to steep lower coastal plain hills: This woodland range site consists of loamy, strongly sloping to very steep soils that formed in unconsolidated coastal plain materials consisting of sand, gravel, silt, and clay. These are well-drained soils. Infiltration of moisture is moderate to rapid, and the internal movement of water is moderate. The available moisture capacity is moderate to low. These soils are medium to low in natural fertility and low in content of organic matter. They are strongly acid. Runoff is rapid to moderate, and the hazard of erosion is slight to severe. This soil is somewhat droughty, and vegetation must rely largely on summer showers for growth.

The overstory on this woodland range site is longleaf, loblolly, and shortleaf pines, among which the loblolly pines are dominant. Forming the understory, sometimes one so dense that growth of grass is restricted, are southern red, Shumard, turkey, blackjack, water, and post oaks; sweetgum, blackgum, black cherry, persimmon, and hickory. The hardwoods tend to be scrubby and of low quality, except those that grow along the drainheads and on moist lower slopes. The shrubs in the understory are chiefly gallberry, French mulberry, yaupon, huckleberry, dogwood, and vines.

When the site has its potential, or climax, vegetation, the ground cover is about 80 percent decreasers, 17 percent increasers, and 3 percent invaders. The principal decreasers are pinehill and little bluestem, which are dominant in the stand, and switchgrass, indiangrass, longleaf uniola, and perennial tickclover. The most common increasers are low panicum, perennial three-awn, and grassleaf golden-aster. Other common increasers are beaked panicum, broomsedge bluestem, dropseed, and carpetgrass. Increase of carpetgrass in the stand indicates severe overuse of the woodland range site. Invading plants are annual grasses, annual and perennial weeds, and honeysuckle, which is dominant.

When this site is in excellent condition, optimum production, in areas without an overstory, is about 2,400 pounds of air-dry forage annually.

WOODLAND RANGE SITE 3

Lower coastal plain: This woodland range site consists of loamy to sandy, nearly level soils of the bottom lands. The soils formed in materials washed from uplands. They are moderately well drained to poorly drained. They are medium to low in natural fertility, and their content of organic matter is low to moderate. The available moisture capacity is moderate. These soils are strongly acid. Runoff is slow, and most of these soils are flooded several times a year.

The overstory on this woodland site is hardwoods mixed with a few pines. The trees are generally too dense to allow much growth of plants for grazing. In the overstory are ash, beech, cypress, hackberry, elm, magnolia, red maple; Nuttall, laurel, Shumard, southern red, swamp, chestnut, water, white, cherrybark, and willow oaks; persimmon, sweetgum, sweetbay, sycamore, black and water tupelo, yellow-poplar, and an occasional loblolly and spruce pine. In the understory are blue beech, ironwood, gallberry, huckleberry, yaupon, and vines. The ground cover consists of rushes, sedges, and grasses.

Because browsing cattle impair ability of hardwoods to reproduce stands, they should be grazed only in areas that have been converted to pines or in hardwood stands where reproduction is not needed.

WOODLAND RANGE SITE 4

Thin loess hills: This woodland range site consists of loamy, level to sloping soils that formed in loess or silty sediments. These sediments form a layer 2 to 4 feet thick over coastal plain sand and clay. These soils are moderately well drained to poorly drained. Infiltration of moisture is moderate, and internal movement of water is moderate to slow. The available moisture capacity is moderate. These soils are medium to low in natural fertility and low in content of organic matter. Runoff is slow to moderate, and the hazard of erosion is slight to moderate. In a few areas the soils are severely eroded.

The overstory on this woodland site consists of loblolly, shortleaf, and longleaf pines, among which the loblolly pines are dominant. Blackjack, post, black, Shumard, southern red, cherrybark, white, laurel, and willow oaks; elm, hackberry, hickory, sweetgum, blackgum, red maple, boxelder, yellow-poplar, black locust, beech, and sycamore are sometimes present in the pine forest. The composition of the stands varies from nearly pure pine to nearly pure hardwoods. The understory consists of redbud, huckleberry, French mulberry, redcedar, sourwood, dogwood, crabapple, and vines.

When the site has its potential, or climax, vegetation, the ground cover is made up of about 75 percent decreasers, 20 percent increasers, and 5 percent invaders. The principal decreasers are little and pinehill bluestem, which are dominant in the stand, and switchgrass, indiangrass, longleaf uniola, and switchcane. The most common increasers are low panicum, beaked panicum, and grassleaf golden-aster. Other common increasers are perennial three-awn, broomsedge bluestem, dropseed, and carpetgrass. Invading plants are annual grasses, annual and perennial weeds, and vines.

When this site is in excellent condition, optimum production, in areas without an overstory, is about 3,000 pounds of air-dry forage annually.

WOODLAND RANGE SITE 5

Loessal wetlands: This woodland range site consists of medium-textured, nearly level soils that formed in silty materials that washed from the loessal uplands. These are moderately well drained to poorly drained soils. They are medium to low in natural fertility and in content of organic matter. Their available moisture capacity is moderate to high. These soils are strongly acid. Runoff is slow, and most of these soils are flooded several times a year.

The overstory on this woodland site is hardwoods mixed with pines, and the trees are generally too dense to furnish much growth of plants for grazing. The overstory trees are ash, cypress, willow, beech, yellow-poplar, sycamore; water, pin, white, swamp, chestnut, cherrybark, southern red, Shumard, and willow oaks; hickory, honey locust, magnolia, elm, red maple, boxelder, blackgum, sweetgum, and loblolly and spruce pines. The understory vegetation includes buttonbush, black alder, sourwood, gallberry, huckleberry, dogwood, witch-hazel, redbay, wild azalea, hawthorn, and vines.

The original ground cover is made up of about 85 percent decreasers, 10 per cent increasers, and 5 percent invaders. The principal decreasers are largely pinehill and little bluestem, mixed with switchgrass, plumgrass, and switchcane. Low panicum, sedges, and rushes are the most common increasers. Other increasers are beaked panicum, broomsedge bluestem, perennial three-awn, and carpetgrass. The invaders are annual grasses, annual and perennial weeds, and vines.

When this site is in excellent condition, optimum production, in areas without an overstory, is about 4,000 pounds of air-dry forage.

Use of Soils as Woodland [2]

Most of Pike County was once covered by stands of pines and hardwoods. Longleaf pines generally grew on ridges and other fairly dry areas. Loblolly and shortleaf pines grew on the middle and lower parts of slopes. Pure stands of loblolly pine also grew on terraces and on moist sites along streams. Beech, sweetgum, water oak, yellow-poplar, magnolia, elm, ash, cypress, white oak, maple, and other valuable hardwoods grew on bottom lands along the Tangipahoa, Bogue Chitto, and Amite Rivers and their larger tributaries.

Some cutting of the woodlands took place about 1858, but large-scale cutting did not begin until the early 1900's. By 1917, practically all of the merchantable timber had been removed, and only scattered stands of second-growth pine were left. These stands are now producing good yields. In 1957, for example, a total of 12.7 million board feet of sawtimber was cut. A total of 29,616 standard cords of pulpwood was cut in 1958.

Woodlands now occupy about 54 percent of the land area in this county. In 1957, growing stock totaled 77.7 million cubic feet, of which 25.0 million cubic feet was pine, and 52.7 million cubic feet was hardwoods. The sawtimber totaled 242.6 million board feet, of which 86.4 million was pine and 156.2 million was hardwoods (*12*).[3]

[2] JOSEPH V. ZARY, woodland conservationist, assisted in preparing this section.

[3] Italic numbers in parentheses refer to Literature Cited, p. 61.

Species of trees are numerous, but the stands consist mainly of longleaf, loblolly, and shortleaf pine, oak, hickory, gum, cypress, elm, ash, cottonwood, and magnolia. About 90 percent of the wooded acreage in this county is in small tracts that are privately owned. The rest is owned by industries that manufacture wood products or is public land such as that in Percy Quin State Park.

Major forest types

Five major forest types occur in this county (*9*, *12*). These are: loblolly-shortleaf pine; oak-hickory; longleaf-slash pine; bottomland hardwoods; and oak-pine. Two of these forest types, loblolly-shortleaf pine and longleaf-slash pine, are softwoods. Two types, the oak-hickory and the bottomland hardwoods, are classed as hardwoods. The remaining forest type, the oak-pine, is a mixture of softwoods and hardwoods.

In 1957 (*12*), loblolly-shortleaf pine occupied 48,400 acres in this county; longleaf-slash pine, 3,200 acres; oak-pine, 19,400 acres; oak-hickory, 45,200 acres; and bottomland hardwoods, 25,800 acres.

Following are brief descriptions of each of the five major forest types.

Loblolly-shortleaf pine.—Half or more of the stand in this forest type consists of loblolly pine and shortleaf pine. Spruce pine is included in some places where more moisture is available. This forest type occurs in soil associations 4, 5, 6, and 7.

Oak-hickory.—In this forest type, half or more of the stand consists of upland oak, hickory, or both. The rest of the stand is made up of other hardwoods. This forest type occurs on uplands in soil associations 6 and 7.

Longleaf-slash pine.—In this forest type (fig. 4), half or more of the stand is made up of longleaf pine or slash pine. The stands of slash pine are planted; native stands are not known in the county. This forest type is mainly on uplands in soil associations 5 and 7.

Bottomland hardwoods.—This major forest type consists mainly of two subtypes, the oak-gum-cypress and the elm-ash-cottonwood. In the oak-gum-cypress subtype, half or more of the stand consists mainly of tupelogum, blackgum, sweetgum, oak, or cypress, which grow singly or in combination. In this subtype, less than 25 per cent of the stand is pine.

The other forest subtype, the elm-ash-cottonwood, has stands in which more than half the growth is elm, ash, or cottonwood, growing singly or in combination.

The bottomland hardwoods forest type, made up of the two subtypes already mentioned, is on flood plains in soil associations 1, 2, and 3.

Oak-pine.—The stand in this forest type consists mostly of upland oaks, but loblolly and shortleaf pines make up 25 to 40 percent of the stand. This forest type is mainly on uplands in soil associations 6 and 7.

Woodland suitability groups

To assist owners of woodland and others interested in planning the management of woodland, the soils of this county have been placed in 15 woodland suitability groups. Each group is made up of soils that require similar management for wood crops and that have comparable productivity. These groups are shown in table 2 (p. 20),

Figure 4.—Longleaf-slash pine forest on Ora fine sandy loam.

and the names of the soils in each group can be learned from the "Guide to Mapping Units" in the back of this survey. For each woodland suitability group, table 2 contains estimates of potential productivity expressed as site indexes; species to favor in stands and to use for planting; and ratings for plant competition, seedling mortality, windthrow hazard, equipment limitations, and erosion hazard. Following are explanations of the items in table 2.

Site index is the average height of the dominant and co-dominant trees in a stand 50 years of age. The site index of a selected species of tree on a particular soil is especially important, because wood crops take a comparatively long time to mature, and because it is necessary to know how much growing stock should be on the soil to get full production.

The site indexes for pine are based on studies made in Lincoln, Amite, Franklin, and Pike Counties. Those for some of the hardwood trees were adapted from publications of the Southern Forest Experiment Station, U.S. Forest Service (*3, 4, 5, 6*).

Average annual growth is an estimate in terms of board feet per year. It is useful mainly in comparing productivity of the soils in one woodland group with those in another, and the productivity of one species with that of another. Intensity of management and kind of wood crop desired both affect yield of timber. For example, average annual growth is different if a stand is managed for pulpwood than it is if the stand is managed for sawlogs.

Plant competition is rated as slight, moderate, or severe. A rating of slight means that competition from undesirable plants is no special problem. A rating of moderate means that the undesirable plants, or invaders, delay but do not prevent the establishment of a normal fully stocked stand. The seedbed generally does not require special preparation, and simple methods can be used to prevent undesirable plants from invading. A rating of severe means that competition from other plants prevents desirable trees from restocking naturally. Where competition is severe, the site needs careful preparation, and management includes controlled burning, girdling, and spraying of the undesirable plants with chemicals.

Seedling mortality refers to the failure of seedlings to grow in a normal environment after adequate natural seeding has taken place or after suitable seedlings have been planted. It is affected by the kinds of soils and by other factors in the environment. A rating of slight means that trees ordinarily regenerate naturally in areas where there is sufficient seed, or that no more than 25 percent of the seedlings that are planted die. A rating of moderate means that trees ordinarily do not reseed naturally in numbers large enough for adequate restocking, or that 25 to 50 percent of the seedlings that are planted die. In places replanting is necessary to fill open places. A rating of severe means that trees ordinarily do not reseed naturally, even where there are enough seeds, and that more than 50 percent of the seedlings that are planted die. Where seedling mortality is severe, seedlings need to be planted where the seeds do not grow, a special seedbed should be prepared, and special methods of planting need to be used to assure a full stand of trees.

Windthrow depends on the development of tree roots and the ability of the soils to hold the roots firmly. The hazard is slight if trees are firmly rooted and do not fall down in a normal wind. It is moderate if roots are large enough to hold the trees firmly except when the ground is excessively wet and the wind is strong. Windthrow is rated severe if roots do not give enough stability to prevent trees from blowing over when other trees around them have been cut down.

Equipment limitations, rated as slight, moderate, and severe, are determined by characteristics of the soils that prohibit or restrict use of equipment in tending and harvesting trees. A slight limitation means no restriction in kind of equipment or in time of year that it is used. Moderate means that slopes are moderately steep, or that wetness of the soils restricts use of equipment during some parts of the year. Severe means that the soils are moderately steep to steep, have outcrops of

stone or rock, or are wet during some parts of the year because they are on bottom lands or low stream terraces.

Erosion is rated a slight hazard if little loss of soil material is expected. Generally the hazard is slight if the slope is no more than 2 percent and runoff is slow or very slow. The hazard is rated moderate where loss of soil is moderate when runoff is not controlled and the cover of plants is not adequate to protect the soil. The hazard is severe where steep slopes, rapid runoff, slow infiltration and permeability of the soil, and past erosion of the soil permit severe loss of soil material.

Use of Soils for Wildlife and Fish [4]

In this section the main kinds of wildlife in the county are mentioned; the types of food and cover needed by the different kinds are discussed; and the relation of wildlife, soils, and plants is brought out by describing four wildlife areas. Each of these wildlife areas occupies one or more soil associations in the county.

Wildlife resources.—All the soils in this county are suited to one or more kinds of wildlife common in the State. The actual number and kinds of wildlife in an area depend on the land use. Some species of wildlife do well on open farmland, others on woodland, and others on wetland or marsh. Most kinds need a combination of these different environments to be abundant.

In this county bobwhite quail, doves, and rabbits are the most common game on farmland. They are in all the soil associations where there is open land and where some form of agriculture is practiced. The woodland game—squirrels and deer—thrive best in wooded tracts where part of the stand consists of hardwoods.

Wildlife food and cover.—Bobwhite quail need open and semiopen areas. Food should be available near vegetation that provides protection from predators and adverse weather. Areas offering suitable food and cover are primarily those where row crops are grown extensively.

The choice foods for quail are acorns, beechnuts, blackberries, browntop and Texas millets, black cherries, corn, cowpeas, flowering dogwood, bicolor, Kobe, Korean, and common lespedezas, the seeds of pine and sweetgum, mulberries, partridgepeas, ragweed, soybeans, and tickclover. Quail also eat insects.

Doves require water daily. For feeding, they also need open fields that have a thick ground cover. Choice foods for doves are browntop millet, corn, woolly croton, grain sorghum, several kinds of panicgrass, pokeberry, ragweed, wheat, and the seeds of pine and sweetgum.

Rabbits require some cover. Plants that provide good cover for them are blackberry, multiflora rose, sericea lespedeza, and other low-growing brush, shrubs, and annual weeds. Rabbits eat grass, grain, clover, and bark.

Squirrels require wooded areas that range from a few acres to tracts somewhat larger. The stand must contain hardwoods. Their choice foods are acorns, beechnuts, the seeds of blackgum, maple, and pine, black cherries, corn, dogwood, hickory nuts, mulberries, and pecans.

Deer require 500 acres or more of woodland and a dependable source of water. They eat many different kinds of plants, including acorns, clover, corn, cowpeas, greenbrier, honeysuckle, oats, fescue, and wheat.

Ducks require a wetland habitat. Some of their choice foods are acorns, beechnuts, browntop millet, corn, Japanese millet, and smartweed.

Nongame birds live in a number of kinds of habitats. There are many species of these, and the requirements for food and cover vary according to the species. Some eat nothing but insects, a few eat insects and fruits, and several other species combine insects with acorns, nuts, and fruits.

The principal game fish in ponds and streams are bass, bluegill and other kinds of sunfish, and channel catfish. Bluegill and other kinds of sunfish eat aquatic worms, insects, and insect larvae. Bass and catfish eat small fish, frogs, crayfish, and other kinds of aquatic animals and microscopic plants. The amount of food and fish produced in ponds is related to the fertility of the soils in the watershed and in the bottom of the pond. Most ponds need fertilizer and lime to yield a good supply of fish.

Wildlife suitability areas

Pike County has been divided into four wildlife suitability areas, each containing one or more soil associations. The extent of the various wildlife suitability areas can be determined by referring to the general soil map at the back of this survey. Each wildlife area contains soils reasonably similar in their ability to support the plant communities that the various kinds of wildlife need for food and cover.

WILDLIFE AREA 1

This wildlife area is made up of the Falaya-Waverly-Collins and the Mantachie-Iuka-Ochlockonee soil associations. It occupies most of the flat bottom land along streams in the county and covers about 20 percent of the total land area in the county. A large part of this wildlife area is in hardwood timber. The farms are medium in size, and many of the farm units extend onto uplands. Overflow hazard limits use of the soils. The chief enterprises are raising of livestock, managing the timber, and growing corn, hay, and cotton.

The hardwood forest in this wildlife area provides excellent habitat for squirrels. Deer and turkeys do well where the acreage of timber is large enough to support them. The deer and turkeys do especially well where tracts of this wildlife area join with larger acreages on uplands that are covered by pine or mixed pine and hardwoods.

Sites for duckfields are common in this wildlife area. Most of the soils hold water well for winter flooding and produce good crops of browntop millet and Japanese millet, which can be grown to be flooded from streams that flow the year round.

Some of the bottom lands covered with hardwoods are suitable for flooding for ducks. Beaver dams also produce some habitat for ducks.

This wildlife area can provide suitable habitat for bobwhite quail, rabbits, and doves. The population will depend mainly on the efforts landowners make to provide food and cover, since farm game concentrates mainly in areas bordering open land and adjacent to woodland.

[4] EDWARD G. SULLIVAN, biologist, assisted in the preparation of this section.

TABLE 2.—*Woodland suitability groups, site indexes, and*

Woodland suitability groups	Potential soil productivity			Species suitability
	Tree	Site index	Average annual growth [1] (Doyle rule)	
			Board feet	
Group 1: Deep, well-drained sandy loams that have a sandy clay loam or sandy loam subsoil (CaF, RmA, RuB2, RuD2, RuE2, SaC, SaE, SaF).	Longleaf pine	74	145	Suitable hardwoods are black cherry, cherrybark oak, and red oak; and on lower slopes sweetgum and yellow-poplar. Suitable softwoods are loblolly, shortleaf, and longleaf pines. Favor pure pines or mixed oaks and pines in the stand.
	Loblolly pine	88	345	
	Shortleaf pine	75	260	
	Sweetgum	70	155	
	Red oak	60	75	
Group 2: Deep, well-drained, severely eroded sandy loams that have a sandy clay loam or sandy loam subsoil (CaF3, RuD3, RuE3).	Loblolly pine	[2] 80	265	Loblolly and shortleaf pines
	Shortleaf pine	70	210	
Group 3: Moderately well drained silt loams that have a fragipan at a depth of 16 to 20 inches (BhA, BhB, BhB2, BhC2).	Loblolly pine	83	295	Suitable hardwoods are cherrybark oak, red oak, white oak, and water oak; and on uneroded areas sweetgum. Suitable softwoods are loblolly, shortleaf, and longleaf pines. Favor pure pines or mixed hardwoods and pines in the stand.
	Longleaf pine	73	140	
	Shortleaf pine	71	220	
	Cherrybark oak	90	350	
	Sweetgum	80	220	
Group 4: Moderately well or well drained sandy loams that have a fragipan at a depth of 16 to 28 inches (OfA, OfB, OfB2, OfB3, OfC2, OfC3, OrC2, OrC3, PaA, SnB2, SnC2).	Loblolly pine	91	380	Suitable hardwoods are red oak, sweetgum, black tupelo, and cherrybark oak, all on lower slopes or in uneroded areas. Suitable softwoods are loblolly, shortleaf, and longleaf pines. Favor pure pines or mixed hardwoods and pines in the stand.
	Longleaf pine	74	140	
	Shortleaf pine	74	250	
Group 5: Moderately well drained silty material that formed mostly in alluvium derived from loess (Cl, Co).	Loblolly pine	[2] 106	580	Suitable hardwoods are basswood, black cherry, cottonwood, elms, magnolia, cherrybark oak, red oak, water oak, yellow-poplar, and sweetgum. Loblolly pine is the suitable softwood. Favor hardwoods or hardwoods and loblolly pine in the stand.
	Cottonwood	120	850–900	
	Cherrybark oak	110	500–600	
	Willow oak	110	500–600	
	Sweetgum	110	570	
Group 6: Somewhat poorly drained silty soils that washed primarily from silty alluvium of loessal origin (Fa).	Loblolly pine	105	570	Suitable hardwoods are ash, cottonwood, red maple, cherrybark oak, red oak, water oak, willow oak, sweetgum, and yellow-poplar. Loblolly pine is the suitable softwood. Favor hardwoods or hardwoods and loblolly pine in the stand.
	Cottonwood	100	400–600	
	Cherrybark oak	100	400–600	
	Willow oak	100	400–600	
	Sweetgum	100	400–600	
Group 7: Poorly drained silty alluvium that formed mostly in silt loams derived from loess (Wa).	Loblolly pine	80	265	Suitable hardwoods are ash, baldcypress, laurel oak, water tupelo, and a suitable softwood is loblolly pine. Favor hardwoods or hardwoods and loblolly pine in the stand.
Group 8: Poorly drained loamy alluvium that washed from sandy coastal plain soils (Bb).	Loblolly pine	100	490	Suitable hardwoods are ash, baldcypress, beech, red maple, cherrybark oak, laurel oak, swamp oak, sweetgum, and yellow-poplar. A suitable softwood is loblolly pine. Favor hardwoods in the stand.
Group 9: Poorly drained silt loams that have a silty clay loam claypan at a depth of 18 to 22 inches (Fr).	Loblolly pine	88	345	Suitable hardwoods are beech, water oak, cherrybark oak, sweetgum, black tupelo, and a suitable softwood is loblolly pine. Hardwoods are favored in the stand.
	Cherrybark oak	80	200–250	
	Sweetgum	70	155	
Group 10: Poorly drained silt loams that overlie silt loams or silty clay loams (Ch).	Loblolly pine	90	365	Suitable hardwoods are willow oak, sweetgum, water oak, white oak, and cherrybark oak; a suitable softwood is loblolly pine. Favor hardwoods in the stand.
Group 11: Somewhat poorly drained loamy alluvium that washed from coastal plain soils (Ma).	Loblolly pine	100	490	Suitable hardwoods are magnolia, red maple, cherrybark oak, laurel oak, Nuttall oak, water oak, white oak, sweetgum, and tupelo. A suitable softwood is loblolly pine. Favor hardwoods in the stand.

factors affecting management of woodland

Use for planting	Plant competition	Seedling mortality	Windthrow hazard	Equipment limitations	Erosion hazard
Loblolly, slash, longleaf, and shortleaf pines.	Slight	Slight	Slight	Slight; moderate on slopes of more than 12 percent.	Moderate to severe on slopes of more than 12 percent.
Loblolly and shortleaf pines.	Slight	Moderate to severe.	Slight	Severe to very severe.	Very severe.
Loblolly, shortleaf, longleaf, and slash pines.	Moderate	Moderate	Slight to moderate	Moderate	Slight to moderate.
Loblolly, slash, longleaf, and shortleaf pines.	Moderate	Slight to moderate.	Slight to moderate.	Slight to moderate	Moderate to severe on slopes of 0 to 2 percent.
Loblolly pine, cottonwood, cherrybark oak, and sweetgum.	Moderate	Moderate	Slight to moderate.	Moderate to severe	Slight.
Loblolly pine, cottonwood, cherrybark oak, and sweetgum.	Moderate to severe.	Moderate	Moderate	Moderate to severe	Slight.
Loblolly pine, cottonwood, and sweetgum.	Moderate to severe.	Moderate	Moderate	Moderate to severe	Slight.
Hardwoods and loblolly pine.	Moderate to severe.	Moderate to severe.	Moderate	Moderate to severe	Slight.
Sweetgum and loblolly pine.	Severe	Moderate	Severe	Moderate to severe	Slight.
Hardwoods and loblolly pine.	Severe	Moderate	Moderate	Moderate to severe	Slight.
Hardwoods and loblolly pine.	Moderate to severe.	Moderate	Moderate	Moderate to severe	Slight.

TABLE 2.—*Woodland suitability groups, site indexes, and*

Woodland suitability groups	Potential soil productivity			Species suitability
	Tree	Site index	Average annual growth [1] (Doyle rule)	
			Board feet	
Group 12: Somewhat poorly drained to moderately well drained silt loams that have a fragipan at a depth of 14 to 28 inches (SoA, SpB).	Loblolly pine	90	365	Suitable hardwoods are cherrybark oak, sweetgum, black tupelo, and yellow-poplar. A sutable softwood is loblolly pine. Favor hardwoods and loblolly pine or pure pine in the stand.
Group 13: Moderately well drained to well drained loamy alluvium that washed from coastal plain soils (Io, Kn, Ob).	Loblolly pine	100	490	Suitable hardwoods are black cherry, magnolia, cherrybark oak, water oak, white oak, sweetgum, yellow-poplar, and southern red oak. A suitable softwood is loblolly pine. Favor hardwoods or loblolly pine in the stand.
Group 14: Moderately well drained silt loam that has a silty clay loam subsoil and a fragipan at a depth of 20 to 24 inches (PrB2, PrC2, PrC3).	Loblolly pine	88	345	Suitable hardwoods are cherrybark oak, Shumard oak, white oak, sweetgum, and yellow-poplar on uneroded areas. Suitable softwoods are loblolly, longleaf, and shortleaf pines. Favor pure pines or hardwoods and pines in the stand.
	Longleaf pine	74	145	
	Shortleaf pine	78	290	
	Cherrybark oak	90	[3]	
	Sweetgum	80	[3]	
Group 15: Severely gullied and eroded areas that occur in coastal plain sands (Gu).	Loblolly pine	[3]	[3]	Suitable softwoods are loblolly and shortleaf pines. Favor pure pines in the stand.
	Shortleaf pine	[3]	[3]	

[1] Average yearly growth per acre, to age 60, for fully stocked, normal stands. Data from "Volume, Stand, and Yield Tables for Second-Growth Southern Pines" (*11*).

[2] Data from other areas.

The population of quail can be encouraged by leaving plants along ditches and in small idle areas that provide food and cover, but to support high populations it may be necessary to space plantings that provide food and cover at various places over the farm. Browntop millet, Texas millet, soybeans, cowpeas, and bicolor lespedeza are plants adapted to the soils of this area that can be planted to supplement the natural supply of food for quail. Annual lespedezas do well on this wildlife area, as do also the native legumes.

Rabbits need much the same habitat as quail. They live around fields, and even in pastures, if sufficient cover is provided. They benefit if small patches and strips of winter forage, well treated with mineral supplements, are left adjacent to cover.

Doves can be encouraged to feed in this wildlife area by planting browntop millet and Texas millet. They ordinarily feed in fields of corn and grain sorghum.

Most of the soils in this association hold water well, and good fish production can be expected where ponds can be constructed. Most ponds must be of the dug type, with a levee around them high enough to keep out floods.

WILDLIFE AREA 2

Wildlife area 2 is coextensive with the Stough-Calhoun-Prentiss soil association. It is in a narrow strip, generally ¼ to ½ mile wide, that lies between the nearly level bottom lands and the steep uplands along the Bogue Chitto and Tangipahoa Rivers. Most of the farms in this area extend onto the bottom lands and the adjoining uplands. This area covers about 5 percent of the total land area in the county.

The capacity of this area to produce the plant associations necessary for bobwhite quail, rabbits, and doves is little different from that of wildlife area 1. More of this area than of area 1 is under pine forest, however, and for this reason, it has slightly greater capacity to support deer, turkeys, and squirrels. The area of hardwood forest is greater than in wildlife group 3. If more of this area is managed for production of quality hardwoods, it will support an average population of squirrels, and in wooded tracts large enough, deer and turkeys.

This wildlife area provides fewer sites for flooded duckfields than area 1, but more sites for fishponds and lakes. The soils hold water, and high production of fish can be expected if the ponds are correctly stocked and managed.

WILDLIFE AREA 3

Wildlife area 3 occupies the Providence-Ora-Ruston, Brookhaven-Providence, and Ora-Savannah-Ruston soil associations. It is an area of moderately well drained and well drained uplands where ridgetops are broad and gently sloping to nearly level, and the sides of the ridges are moderately sloping to steep. Many intermittent and permanent streams dissect the area. Most of the farms are small and operated by the owner. They are of the general type on which cotton, corn, small grain, and hay are grown. Loblolly and longleaf pines are dominant on the ridges and slopes, and hardwoods grow on the bottoms along the streams. This area covers about 42 percent of the county.

These soils are well-suited to those plant associations that support farm game, but land use does not encourage large populations. The pastures and woodland have

factors affecting management of woodland—Continued

Use for planting	Plant competition	Seedling mortality	Windthrow hazard	Equipment limitations	Erosion hazard
Hardwoods, and loblolly and slash pines.	Moderate	Moderate	Slight to moderate.	Moderate	Slight.
Hardwoods and loblolly pine.	Moderate to severe.	Moderate	Slight	Moderate	Slight.
Loblolly, shortleaf, longleaf, and slash pines.	Moderate	Slight to moderate.	Slight to moderate.	Slight to moderate.	Moderate to severe.
Loblolly and shortleaf pines.	Slight to moderate.	Moderate to severe.	Slight to moderate.	Moderate to severe.	Severe.

[3] Not estimated.

low populations of quail and rabbits unless specific practices are applied to benefit them. Among these are providing more cover for quail and rabbits around pastures. If the cover is available, the grasses in pastures can support rabbits, but quail, and doves also, benefit if woolly croton is planted.

Squirrels are concentrated mainly in the stream bottoms, where the hardwood trees provide a suitable habitat. The population can be increased by maintaining mixed stands of hardwoods along streams and on lower slopes. Deer find suitable habitat in most of the wooded areas, and proper forestry practices improve conditions for them. The larger wooded tracts are suitable for wild turkeys.

Few sites on this wildlife area are suitable as duckfields. Some small bottom-land areas might be found along the many streams. Larger lakes and ponds would support ducks if the water were lowered and Japanese millet were planted along the margins. Beaver ponds provide some habitat for ducks.

Sites for ponds are abundant in this wildlife area, and good fish production can be expected if proper management is practiced.

WILDLIFE AREA 4

This wildlife area is coextensive with the Ora-Ruston-Saffell-Cahaba soil association. It is on sandy coastal plain uplands that have been dissected by many small permanent and intermittent streams. The soils are moderately well drained and gently sloping to steep. This area differs from area 3 mainly in steepness and in the greater acreage occupied by timber. It covers 33 percent of the county.

Populations of farm game are lower than on wildlife area 3 because more land is covered with trees. The quail, doves, and rabbits are concentrated in those areas where row crops are grown and hay meadows are kept. The soils, however, are suited to many kinds of plants suitable for wildlife.

The extensive acreage in forest is well suited to woodland wildlife. The number of squirrels is somewhat limited because large acreages are in pure pine. In most of this area, however, there are enough hardwoods along streams to furnish a moderate population of squirrels. The woodland provides habitat for deer, particularly where timber management has been practiced. A few areas are suitable for turkeys.

In this wildlife area, only the beaver ponds along the streams provide habitat for ducks. Sites for fishponds are numerous, and ponds on these soils produce good fishing under proper management.

Engineering Uses of the Soils [5]

Soil properties are of special interest to engineers because they affect the construction and maintenance of highways, airports, pipelines, foundations of buildings, and facilities for storing water, controlling erosion, draining and irrigating soils, and disposing of sewage. The soil properties most important to the engineer are permeability, shear strength, compaction characteristics, soil drainage, shrink-swell characteristics, grain size,

[5] PAUL A. CALHOUN, agricultural engineer, assisted in the preparation of this section.

plasticity, and soil reaction, or pH. Topography and depth to water table, to bedrock, or to sand and gravel are also important.

Some of the properties of soils most important to engineering and information about their behavior when used for engineering are shown in tables 3, 4, and 5. The information can be used by engineers along with other information in the survey to—

1. Make soil and land use studies that will aid in selecting and developing industrial, business, residential, and recreational sites.
2. Make preliminary estimates of the engineering properties of soils in planning of agricultural drainage systems, farm ponds, irrigation systems, diversion terraces, and other structures for conserving soil and water.
3. Make preliminary evaluations of soil and ground conditions that will aid in selecting highways, airports, pipelines, and cable locations and in planning detailed investigations at the selected locations.
4. Locate sources of sand and gravel for use in construction.
5. Correlate performance of engineering structures with soil mapping units to develop information that will be useful in designing and maintaining pavements.
6. Determine the suitability of soil mapping units for cross-country movement of vehicles and construction equipment.
7. Supplement the information obtained from other published maps and reports and aerial photographs to make maps and reports that can be readily used by engineers.
8. Develop other preliminary estimates for construction purposes pertinent to the particular area.

It should be emphasized, however, that the interpretations in this section may not eliminate the need for sampling and testing at the site of specific engineering works involving heavy loads or where the excavations are deeper than the depth of layers here reported. Even in such situations, however, the soil map is useful for planning more detailed field investigations and for suggesting the kinds of problems that can be expected. By using the information in this soil survey, engineers can concentrate on the most suitable soils. Then a minimum number of soil samples will be needed for laboratory testing, and adequate investigation can be made at minimum cost.

Not all the information useful for engineering is confined to this section on engineering and the soil map. More information can be had from the sections "Descriptions of the Soils" and "Formation and Classification of Soils."

Some of the terms used by the soil scientist may be unfamiliar to the engineer, and some words, for example, soil, clay, silt, and sand, may have special meaning in soil science. These and other special terms that are used are defined in the Glossary at the back of the survey.

Engineering classification sytems

Agricultural scientists of the United States Department of Agriculture classify soils according to texture. In some ways this system of naming textural classes is comparable to the two systems used by engineers for classifying soils; that is, the system of the American Association of State Highway Officials (AASHO) and the Unified system.

Most highway engineers classify soil materials in accordance with the system approved by the American Association of State Highway Officials (*1*). In this system soil materials are classified in seven principal groups. The groups range from A–1, which consists of gravelly soils of high bearing capacity, to A–7, which is made up of clay soils of low strength when wet.

Within each group, the relative engineering value of the soil material is indicated by a group index number. Group index numbers range from 0 for the best material to 20 for the poorest. The next to last column of table 5 shows these group numbers, in parentheses following the AASHO group symbol.

Some engineers prefer to use the Unified soil classification system (*13*). In this system the soil materials are identified as coarse grained, eight classes; fine grained, six classes; and highly organic. The estimated classification of all the soils of the county, according to the Unified system, is given in the last column of table 5.

Engineering properties of soils

To make best use of the soil maps and soil surveys, the engineer needs to know the physical properties of the soil materials and the in-place condition of the soils. This information is useful in developing design recommendations for the soil units delineated on the soil map. The estimated properties are based on the results of laboratory tests, on observations made in the field, and on experience with the behavior of the soils when used in engineering structures.

Table 3 lists the estimated physical and chemical properties of each soil series of the county. The estimates are given for each significant layer of a typical profile. More complete description of the profiles are given in the section "Descriptions of the Soils."

In table 3 the soils are classified according to the textural classes of the U.S. Department of Agriculture. Estimates are also given of the Unified classification of the soil materials and of the classification used by the American Association of State Highway Officials. These estimated classifications are based on soil test data given in table 5, on experience with similar soils in other counties, and on information given in this survey.

Permeability is the rate of water percolation in the soil, expressed in inches per hour. Permeability depends mainly on the texture and structure of the soil, but it may also be affected by other physical properties. The permeability of each soil layer is important in planning the drainage of a farm. Layers of soil that impede drainage or are very permeable in comparison with adjacent layers can greatly affect the suitability of soil material for foundations.

The acid or alkaline reaction of the soil is expressed in pH. A pH of 7.0 is neutral; values lower than 7.0 are acid, and values higher are alkaline. Knowledge of reaction is useful if pipelines are to be constructed, as it indicates, among other things, likelihood of corrosion.

Dispersion is the degree and speed in which soil structure breaks down or slakes in water. Knowledge of dispersion is helpful in designing and constructing highways or buildings.

Shrink-swell potential indicates the volume change that can be expected of soil material if there is a change in the moisture content. It is estimated primarily on the amount and type of clay in the soil, and expressed as *low*, *moderate*, or *high*. In general, soils classified as CH or A–7 have a high shrink-swell potential. Clean sands and gravels (single grain) and others that contain a small amount of nonplastic to slightly plastic soil material have a low shrink-swell potential. The Savannah subsoil is an example of soil material that has a moderate shrink-swell potential. The subsoil of the Cahaba soils has a low shrink-swell potential.

Engineering interpretations

Table 4 lists the principal soils of this county and gives a brief description of characteristics that affect the suitability of the soils as sites for highways or for soil and water conservation projects. The information is based on experience with the same kinds of soils in other counties and on information given in this survey.

Ratings or comments in this table indicate the suitability of the soil material when it is used for different engineering purposes. With reference to the heading "Suitability as source of topsoil," topsoil is defined as soil material useful for resurfacing the shoulders of roads or other areas where vegetation is to be established and maintained. The properties important in evaluating soil material for this use are (1) productivity, (2) coarse fragments, and (3) thickness of material at the source. The suitability of the soil as a source of topsoil is rated *good*, *fair*, or *poor*.

Suitability of a soil as a source of sand and gravel is rated as *good*, *fair*, *poor*, or *not suited*. The gravelly strata in the coastal plain sediments that underlie the Saffell soils are a possible source of material that can be used in subbase and base courses for pavements. This material can be used as a surfacing for county roads. In some areas Ruston and Providence soils contain a gravelly stratum similar to that in the Saffell soils. These coastal plain strata, however, normally contain clay and other materials not suitable for roads. The sand and gravel in the Ruston and Providence soil strata may not be suitable for use in concrete structures or for the surface course of a flexible pavement.

Road fill is defined as material that is used for building up road grades that support base layers. The important properties for evaluating this use of soil material are (1) shrink-swell behavior, (2) traffic-supporting capacity, (3) inherent erodibility, and (4) thickness of the source material. The soil material is rated *good*, *fair*, *poor*, or *not suited*. For example, Ruston soils are rated as good because their shrink-swell behavior is good, traffic-supporting capacity is good, inherent erodibility is less than severe, and the source material is thicker than 6 feet. Brookhaven soils are rated as fair because their shrink-swell behavior is fair, traffic supporting capacity is fair, inherent erodibility is severe or very severe, and the thickness of source material is 2 to 6 feet.

The suitability of soils for highway location, where grading or earthwork is to be done in the winter or early in spring, is based partly on drainage and the workability of the soil material when wet. From December to April the average rainfall in this county is more than 4 inches per month. The rainfall is evenly distributed. During this period the soil material may not dry to the desired moisture content for earthwork, and construction is delayed or an artificial means for drying the soil material is used. The water table in most of the soils during this period is at its highest level.

Only Saffell, Ruston, and Rumford soils are well suited to grading or earthwork during winter and early in spring. These soils are permeable and dry rapidly, and the water table is below the normal depth of excavation. Earthwork is difficult in winter on the fine-textured Providence and Brookhaven soils. Earthwork is limited in the Calhoun, Frost, Collins, Falaya, Waverly, Ochlockonee, Iuka, Mantachie, and Bibb soils during winter and early in spring because the water table in these soils is near the surface. Earthwork on soils that formed in loess can be restricted in dry weather because loess material cannot be compacted if the moisture content is only slightly in excess of optimum for compaction.

The Frost, Calhoun, and Waverly soils have ponded water on the surface, or the water table is near the surface for long periods each year. Roads on these soils must be constructed on embankment sections or provided with an adequate system of underdrains and surface drains. In low flooding areas of Mantachie, Ochlockonee, Iuka, Bibb, Collins, Falaya, and Waverly soils, roads should be constructed on a continuous embankment that is several feet above the level of frequent flooding.

The Brookhaven, Providence, Frost, Calhoun, Paden, Savannah, Ora, Stough, and Prentiss soils have either a fragipan or claypan that is near the surface. This compact layer impedes vertical drainage, and a perched water table occurs. Both the fragipan or claypan and the perched water table need to be considered in planning location of highways.

Soil features that influence the suitability of soil material for dikes and levees are permeability, stability, shrink-swell potential, and compaction. Bibb soils, for example, have moderate permeability and fair strength and stability.

Some of the soil features that affect engineering practices for a reservoir area are susceptibility to seepage, flood hazard, permeability, variability of soil materials, and the water table. Brookhaven soils are good soils for reservoir areas because they have a slow seepage rate and will store and hold water. Rumford and Cahaba soils, in contrast, are poor to fair soils for reservoir areas because they are subject to excessive seepage in some areas.

Some of the soil features that affect the suitability of soil material for embankments are strength and stability, shrink-swell potential, compactibility, seepage, permeability, and content of coarse fragments.

Soil features that affect engineering practices for agricultural drainage are topography, need of drainage, and location of outlets.

Some of the soil features to consider in the evaluation of the suitability of soil for irrigation are intake rate,

TABLE 3.—*Estimated engineer-*

Soil name	Depth to water table	Depth from surface	Classification		
			USDA texture	Unified	AASHO
		Inches			
Bibb loam (Bb)	Seasonally high water table ranges from a depth of 18 inches to the surface.	0–50	Loam	ML or CL	A–4 or A–6.
Brookhaven silt loam (BhA, BhB, BhB2, BhC2).	Seasonally high water table ranges from 6 to 24 inches from the surface.	0–6	Silt loam	ML	A–4
		6–17	Silty clay loam to silt loam.	ML to CL	A–6 or A–4
		17–39	Silty clay loam.	ML–CL to CL.	A–6 or A–4
		39–54	Silt loam to loam.	ML or CL	A–4
Cahaba fine sandy loam (CaF, CaF3)	Seasonally high water table at a depth below 36 inches.	0–13	Fine sandy loam.	ML, SM	A–4, A–2
		13–27	Sandy clay loam.	ML or SM	A–4 to A–6
		27–47	Sandy loam	SM or SC	A–2 to A–4
Calhoun silt loam (Ch)	Seasonally high water table at or near the surface.	0–18	Silt loam	ML or ML–CL.	A–4
		18–54	Silty clay loam.	CL	A–6
Collins silt loam (Co, Cl)	Seasonally high water table at depth of 18 to 30 inches.	0–54	Silt loam	ML or ML–CL.	A–4
Falaya silt loam (Fa)	Seasonally high water table ranges from a depth of 18 inches to the surface.	0–54	Silt loam	ML or ML–CL.	A–4
Frost silt loam (Fr)	Seasonally high water table at or near the surface.	0–22	Silt loam	ML	A–4
		22–40	Silty clay loam.	MH–CH	A–7
		40–72	Silt loam to silty clay loam.	ML–CL	A–7
Gullied land (Gu)	Too variable to be rated				
Iuka and Ochlockonee soils (Io)	Seasonally high water table at a depth of 36 to 48 inches.	0–54	Sandy loam	ML, SM	A–4
Kinsey soils (Kn)	Seasonally high water table begins at a depth of 18 inches.	0–40	Loam to sandy loam.	ML–CL	A–4 to A–6
		40–47	Sandy clay loam.	SC	A–6 to A–7
Mantachie fine sandy loam (Ma)	Seasonally high water table at a depth of 18 inches.	0–10	Fine sandy loam.	ML, SM	A–4
		10–48	Loam	ML or CL	A–4 or A–6.
Ochlockonee and Bruno soils (Ob):					
Ochlockonee	Seasonally high water table 24 to 48 inches from surface.	2–40	Sandy loam	ML, SM	A–4
		40–54	Loam	ML–CL	A–4 to A–6
Bruno	Seasonally high water table 18 to 36 inches from the surface.	0–8	Sandy loam	ML, SM	A–4
		8–50	Loamy sand	SM	A–2
Ora fine sandy loam (OfA, OfB, OfB2, OfB3, OfC2, OfC3, OrC2, OrC3). (For Ruston part of OrC2 and OrC3, see Ruston fine sandy loam in this table.)	Seasonally high water table 18 to 36 inches from the surface.	0–13	Fine sandy loam to loam.	ML	A–4
		13–24	Loam	ML–CL, SM, ML or CL.	A–4 to A–6.
		24–35	Clay loam to sandy clay loam.	CL	A–6 or A–7.
		35–52	Sandy loam	ML, SM	A–4

ing properties of the soils

Percentage passing sieve—			Permeability	Available water capacity	Reaction	Dispersion	Shrink-swell potential
No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 200 (0.074 mm.)					
			Inches per hour	*Inches per inch of soil*	*pH*		
100	100	55–70	0.80–2.5	0.16	4.5–5.5	High	Low.
100	100	90–100	0.8–2.5	0.24–0.30	4.5–5.5	High	Low.
100	100	90–100	0.8–2.5	0.24–0.28	4.5–5.5	Moderate	Low to moderate.
100	100	90–100	0.05–0.2		4.5–5.5	Moderate	Low.
100	100	60–80	0.8–2.5	0.17–0.22	4.5–5.5	High	Low.
100	100	25–55	0.8–2.5	0.13–0.17	4.5–5.5	High	Low.
100	100	45–60	0.8–2.5	0.13–0.17	4.5–5.5	High to moderate	Low.
100	100	30–40	2.5–5	0.11–0.15	4.5–5.5	High	Low.
100	100	90–100	0.8–2.5	0.24–0.30	4.5–5.5	High	Low.
100	100	90–100	0.8–2.5	0.14–0.18	4.5–5.5	Moderate	Moderate.
100	100	90–100	0.8–2.5	0.24–0.30	5.0–6.0	High	Low.
100	100	90–100	0.8–2.5	—0.24 0.30	4.5–6.0	High	Low.
100	100	90–100	0.8–2.5	0.24–0.30	4.5–5.5	High	Low.
100	100	90–100	0.8–2.5	0.24–0.28	4.5–5.5	Moderate	Moderate.
100	100	90–100	0.8–2.5	0.24–0.28	4.5–5.5	Moderate	Low to moderate.
100	100	45–55	0.8–2.5	0.13–0.17	4.5–5.5	High	Low.
100	100	55–70	0.8–2.5	0.13–0.17	4.5–5.5	High	Low.
100	100	35–50	0.8–2.5	0.14–0.18	4.5–5.5	Moderate	Low.
100	100	45–55	0.8–2.5	0.13–0.17	4.5–5.5	High	Low.
100	100	55–70	0.8–2.5	0.15–0.19	4.5–5.5	High	Low.
100	100	45–55	0.8–2.5	0.13–0.17	4.5–5.5	High	Low.
100	100	55–70	0.8–2.5	0.15–0.19	4.5–5.5	High	Low.
100	100	45–60	0.8–2.5	0.13–0.17	4.5–5.5	High	Low.
100	100	15–25	5.0–10	0.05–0.09	4.5–5.5	High	Low.
100	100	55–70	0.8–2.5	0.13–0.17	4.5–5.5	High	Low.
100	100	45–60	0.8–2.5	0.13–0.17	4.5–5.5	Moderate	Low.
100	100	50–60	0.2–0.8	0.13–0.17	4.5–5.5	Moderate	Low.
100	100	45–55	0.8–2.5	0.12–0.16	4.5–5.5	High	Low.

TABLE 3.—*Estimated engineering*

Soil name	Depth to water table	Depth from surface	Classification		
			USDA texture	Unified	AASHO
		Inches			
Paden silt loam (PaA)	Seasonally high water table 18 to 36 inches from the surface.	0–8	Silt loam	ML or ML–CL.	A–4
		8–24	Silt loam	ML	A–4
		24–36	Loam	CL	A–6
		36–54	Clay loam	CL	A–6
Providence silt loam (PrB2, PrC2, PrC3).	Seasonally high water table 18 to 36 inches from surface.	0–5	Silt loam	ML or CL	A–4
		5–23	Silty clay loam.	ML or CL	A–4 or A–6
		23–31	Silt loam	ML or CL	A–4
		31–54	Clay loam	ML or CL	A–4
Rumford sandy loam (RmA)	Seasonally high water table 36 inches or more from the surface.	0–16	Sandy loam	ML, SM	A–4, A–2
		16–32	Sandy loam to sandy clay loam.	ML or CL, SM.	A–4 to A–6
		32–54	Sandy loam to loamy sand.	SM	A–2 to A–4
Ruston fine sandy loam (RuB2, RuD2, RuD3, RuE2, RuE3).	Seasonally high water table 36 inches or more from the surface.	0–7	Fine sandy loam.	ML, SM	A–4
		7–16	Sandy loam	SM or SC	A–2 to A–4
		16–32	Sandy clay loam.	SC	A–6 to A–7
		32–64	Sandy loam	SM or SC	A–2 to A–4
Saffell gravelly fine sandy loam (SaC, SaE, SaF).	Seasonally high water table 36 inches or more from the surface.	0–19	Gravelly fine sandy loam.	ML to CL	A–4
		19–34	Gravelly silty clay loam.	GC	A–2, A–4
		34–60	Gravelly sandy loam.	GM	A–2
Savannah silt loam (SnB2, SnC2)	Seasonally high water table 18 to 36 inches from surface.	0–8	Silt loam to loam.	ML or ML–CL.	A–4
		8–17	Clay loam	CL	A–6
		17–54	Clay loam	CL	A–6
Stough silt loam (SoA)	Seasonally high water table 12 to 24 inches from surface.	0–8	Silt loam	ML–CL	A–4
		8–15	Loam	ML	A–4
		15–44	Loam	ML	A–4
Stough-Prentiss complex (SpB)	Seasonally high water table 24 to 36 inches from surface.	0–26	Silt loam	ML–CL	A–4
		26–48	Loam	ML	A–4
Waverly silt loam (Wa)	Seasonally high water table 18 inches from the surface.	0–48	Silt loam	ML or ML–CL.	A–4

properties of the soils—Continued

Percentage passing sieve—			Permeability	Available water capacity	Reaction	Dispersion	Shrink-swell potential
No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 200 (0.074 mm.)	*Inches per hour*	*Inches per inch of soil*	*pH*		
100	100	55–70	0. 8–2. 5	0. 13–0. 17	5. 0	High	Low.
100	100	55–70	0. 8–2. 5	0. 13–0. 17	5. 0	High	Low.
100	100	70–80	0. 2–0. 8	0. 17–0. 21	5. 0	Moderate	Moderate.
100	100	60–80	0. 05–0. 2	0. 17–0. 21	4. 5	Moderate	Moderate.
100	100	90–100	0.8–2.5	0.24–0.30	5.0	High	Low.
100	100	90–100	0.8–2.5	0.24–0.30	5.0	Moderate	Low to moderate.
100	100	85–100	0.2–0.8		5.0	High to moderate	Low to moderate.
100	100	60–80	0.2–0.8	0.17–0.21	4.5	Moderate	Low to moderate.
100	100	25–55	0.8–2.5	0.13–0.17	5.0	High	Low.
100	100	45–60	0.8–2.5	0.13–0.17	5.0	High to moderate	Low.
100	100	30–40	2.5–5.0	0.11–0.15	4.5–5.5	High	Low.
100	100	45–55	0.8–2.5	0.13–0.17	4.5–5.5	High	Low.
100	100	30–40	2.5–5.0	0.11–0.15	4.5–5.5	High	Low.
100	100	35–40	0.8–2.5	0.14–0.18	4.5–5.5	Moderate	Low to moderate.
100	100	30–40	2.5–5.0	0.11–0.15	4.5–5.5	High	Low.
80–90	75–85	55–65	2.5–5.0	0.08–0.12	4.5–5.5	High	Low.
60–70	30–40	30–40	0.8–2.5	0.12–0.16	4.5–5.5	Moderate	Low.
40–50	20–30	20–30	2.5–5.0	0.08–0.12	4.5–5.5	High	Low.
100	100	55–70	0. 8–2. 5	0. 13–0. 17	4. 5–5. 5	High	Low.
100	100	70–80	0. 2–0. 8	0. 17–0. 21	4. 0–5. 0	Moderate	Moderate.
100	100	60–80	0. 05–0. 2		4. 0–5. 0	Moderate	Moderate.
100	100	55–70	0. 8–2. 5	0. 24–0. 30	4. 5–5. 5	High	Low.
100	100	55–70	0. 8–2. 5	0. 15–0. 19	4. 5–5. 5	High	Low.
100	100	55–70	0. 2–0. 8		4. 5–5. 5	High	Low.
100	100	60–75	0. 8–2. 5	0. 24–0. 30	4. 5–5. 5	High	Low.
100	100	60–75	0. 2–0. 8		4. 5–5. 5	High	Low.
100	100	90–100	0. 8–2. 5	0. 24–0. 30	4. 5–5. 5	High	Low.

TABLE 4.—*Estimated engineering*

Soil type and map symbol	Suitability as source of—				Soil features affecting engineering practices	
	Topsoil	Sand	Gravel	Road fill	Highway location	Dikes or levees
Bibb loam (Bb)	Fair	Poor	Not suited	Fair	High water table; subject to flooding.	Moderate permeability; fair strength and stability.
Brookhaven silt loam (BhA, BhB, BhB2, BhC2).	Poor to fair	Not suited	Not suited	Fair	Fragipan impedes internal drainage; level to moderately sloping.	Fair stability and strength; low to moderate shrink-swell potential.
Cahaba fine sandy loam (CaF, CaF3).	Good	Good underlying material for road subbase in some areas.	Poor; not suited.	Good	Soil properties favorable; very steep.	Good stability
Calhoun silt loam (Ch)	Fair	Not suited	Not suited	Fair	High water table.	Moderately to slowly permeable; fair to good stability.
Collins silt loam (Cl, Co)	Good	Not suited	Not suited	Fair; easily eroded.	Flood plain; subject to overflow.	Low to fair stability; low shrink-swell potential.
Falaya silt loam (Fa)	Fair to good	Not suited	Not suited	Fair; easily eroded.	Flood plain; occasional to frequent flooding.	Low stability; low shrink-swell potential.
Frost silt loam (Fr)	Poor	Not suited	Not suited	Fair; easily eroded.	Low, level to depressional areas; high water table.	Low to fair stability; low to moderate shrink-swell potential.
Gullied land (Gu)	Variable	Variable	Variable	Variable	Variable	Variable
Iuka and Ochlockonee soils (Io).	Good	Fair underlying material for road base in some areas.	Poor	Good	Subject to flooding.	Moderately permeable; fair strength and stability.
Kinsey soils (Kn)	Good	Fair underlying material for road base in some areas.	Poor	Good	Subject to flooding.	Moderately permeable; fair strength and stability.
Mantachie fine sandy loam (Ma).	Fair to good	Poor	Poor	Fair to good.	High water table; subject to flooding.	Moderate permeability; fair strength and stability.
Ochlockonee and Bruno soils (Ob).	Good to fair	Fair underlying material for road base in some areas.	Poor	Good to fair.	Subject to flooding.	Moderately permeable; fair strength and stability.
Ora fine sandy loam (OfA, OfB, OfB2, OfB3, OfC2, OfC3, OrC2, OrC3).	Good except for fragipan extending from about 24 inches to 54 inches.	Poor in most areas; good underlying material for road base in some areas.	Not suited	Fair to good.	Fragipan causes perched water table.	Moderate permeability; good stability.

properties of the soils

Soil features affecting engineering practices—Continued						Soil limitations for septic tanks
Farm ponds		Agricultural drainage	Irrigation	Terraces and diversions	Waterways	
Reservoir area	Embankment					
Subject to stream overflow; moderate permeability.	Fair to good strength and stability.	Drainage needed; high water table.	Moderate intake rate; moderate permeability.	Soil properties favorable.	High water table; moderate available water capacity.	Severe; high water table; subject to flooding.
Slow seepage rate.	Low to fair strength and stability.	Surface drainage needed.	Slow intake rate; moderate to low available water capacity.	Soil properties favorable.	Moderately shallow to shallow root zone; difficult to establish sod on fragipan zone.	Severe; has fragipan.
Excessive seepage.	Fair to good strength and stability.	Not needed.	Too steep.	Too steep.	Low natural fertility.	Slight.
Moderately slow permeability; high water table; low position.	Fair strength and stability.	Surface drainage needed; high water table.	Moderate to slow intake rate; moderate to high available water capacity.	Not needed.	Low natural fertility; fairly easily sodded when fertilized.	Moderate; high water table.
Slow seepage rate.	Low stability; low shrink-swell potential.	Surface drainage needed.	Slow intake rate; high available water capacity.	Soil properties favorable.	High available water capacity; grows good sod.	Severe; subject to flooding.
Slow seepage rate; subject to flooding.	Low strength and stability; slow seepage rate.	Surface drainage needed.	Slow intake rate; high available water capacity.	Soil properties favorable.	High available water capacity; grows good sod.	Severe; subject to flooding and high water table.
Slow seepage rate.	Low to fair stability; low to moderate shrink-swell potential.	Surface drainage needed.	Slow intake rate; high available water capacity.	Not needed.	Sod sometimes difficult to establish in claypan zone; low available water capacity.	Severe; has high water table.
Variable.	Variable.	Variable.	Variable.	Variable.	Variable.	Variable.
Subject to stream overflow; moderate permeability.	Fair strength and stability.	Surface drainage needed.	Moderate intake rate; moderate permeability.	Soil properties favorable.	Moderate available water capacity; grows good sod.	Severe; subject to flooding.
Subject to stream overflow; moderate permeability.	Low to fair strength and stability.	Surface drainage needed.	High intake rate; moderate permeability.	Not needed.	Moderate available water capacity; grows good sod.	Severe; subject to flooding.
Subject to stream overflow; moderate permeability.	Fair to good strength and stability.	Drainage needed; high water table.	Moderate intake rate; moderate permeability.	Soil properties favorable; not needed.	High water table; moderate available water capacity.	Severe; high water table; subject to flooding.
Subject to stream overflow; moderate permeability.	Low to fair strength and stability.	Surface drainage needed.	High to moderate intake rate; moderate to low permeability.	Not needed.	Moderate available water capacity; grows good sod.	Severe; subject to flooding.
Excessive seepage below fragipan, in some areas.	Fair to good strength and stability.	Surface drainage needed on nearly level slopes.	Moderate intake rate; moderate permeability in upper 1½ to 2 feet; moderate available water capacity.	Fragipan at 1½ to 2 feet.	Low natural fertility; moderate available water capacity above and below fragipan.	Moderate to severe because of fragipan.

TABLE 4.—*Estimated engineering*

Soil type and map symbol	Suitability as source of—				Soil features affecting engineering practices	
	Topsoil	Sand	Gravel	Road fill	Highway location	Dikes or levees
Paden silt loam (PaA)	Good except for fragipan extending from 24 inches to 54 inches.	Poor in most areas; good underlying material for road base in some areas.	Not suited	Fair to good.	Fragipan causes perched water table.	Moderate permeability; good stability.
Providence silt loam (PrB2, PrC2, PrC3).	Fair to good except in fragipan.	Good underlying material for road subbase in some areas.	Not suited	Good	Fragipan impedes internal drainage; predominantly level to moderately sloping.	Fair stability; low to moderate shrink-swell potential.
Rumford sandy loam (RmA)	Good	Good underlying material for road subbase in some areas.	Poor; not suited.	Good	Soil properties favorable; level to very steep.	Moderate permeability; good stability.
Ruston fine sandy loam (RuB2, RuD2, RuD3, RuE2, RuE3).	Good	Good under lying material for road subbase in some areas.	Poor; not suited.	Good	Soil properties favorable; level to steep.	Moderate permeability; good stability.
Saffell gravelly fine sandy loam (SaC, SaE, SaF).	Generally poor	Poor	Good	Good	Soil properties favorable.	Moderate permeability; good strength and stability.
Savannah silt loam (SnB2, SnC2).	Good except for fragipan extending from about 24 inches to 54 inches.	Poor in most areas; good underlying material for subbase in some areas.	Not suited	Fair to good.	Fragipan causes perched water table.	Moderate permeability; good stability.
Stough silt loam (SoA, SpB)	Good except for fragipan extending from about 18 inches to 40 inches.	Not suited	Not suited	Fair to good.	Perched water table; drainage impeded by fragipan.	Moderately permeable: fair to good stability.
Waverly silt loam (Wa)	Fair to good	Not suited	Not suited	Fair; easily eroded.	Flood plain; occasional to frequent flooding.	Low stability; low shrink-swell potential.

properties of the soils—Continued

Soil features affecting engineering practices—Continued						Soil limitations for septic tanks
Farm ponds		Agricultural drainage	Irrigation	Terraces and diversions	Waterways	
Reservoir area	Embankment					
Excessive seepage below fragipan, in some areas.	Fair to good strength and stability.	Surface drainage needed.	Moderate intake rate; moderate permeability in upper 1½ to 2 feet.	Fragipan at 1½ to 2 feet.	Low natural fertility; grows good sod when fertilized.	Severe; perched water table impeded by fragipan.
Excessive seepage below fragipan, in some areas.	Fair strength and stability.	Surface drainage needed on nearly level slopes.	Slow intake rate; moderate available water capacity.	Soil properties favorable.	Moderate available water capacity above and below fragipan.	Moderate to severe because of fragipan.
Excessive seepage in some areas.	Fair to good strength and stability.	Not generally needed.	Moderate intake rate; moderate permeability; moderate available water capacity.	Soil properties favorable on moderate slopes.	Low natural fertility; moderate available water capacity; grows good sod when fertilized.	Slight.
Excessive seepage in some areas.	Fair to good strength and stability.	Not generally needed.	Moderate intake rate; moderate permeability; moderate available water capacity.	Soil properties favorable on moderate slopes.	Low natural fertility; moderate available water capacity; grows good sod when fertilized.	Slight.
Subject to excessive seepage; needs investigation at the site.	Good strength and stability.	Not needed-----	Moderate intake rate; moderate to low available water capacity.	Soil properties favorable.	Moderate infiltration rate; low natural fertility; moderate to low available water capacity.	Slight.
Excessive seepage below fragipan in some areas.	Fair to good strength and stability.	Surface drainage needed on nearly level slopes.	Moderate intake rate; moderate permeability in upper 1½ to 2 feet; moderate available water capacity.	Fragipan at 1½ to 2 feet.	Low natural fertility; moderate available water capacity above and below fragipan.	Moderate to severe because of fragipan.
Moderate to slow permeability below fragipan.	Fair to good strength and stability.	Surface drainage needed; substratum drainage difficult because of fragipan.	Moderate to slow intake rate; shallow root zone.	Soil properties favorable.	Low natural fertility; grows good sod when fertilized.	Severe; perched water table; drainage impeded by fragipan.
Slow seepage; subject to flooding.	Low strength and stability; slow seepage rate.	Surface drainage needed.	Slow intake rate; high available water capacity.	Soil properties favorable.	High available water capacity; grows good sod.	Severe; flooding and has high water table.

TABLE 5.—*Engineering*

[Tests performed by Mississippi State Highway Department, in cooperation with U.S. Department of Commerce, Bureau of

Soil name and location	Parent material	Mississippi report No.	Depth	Horizon	Moisture density [1]	
					Maximum dry density	Optimum moisture
			Inches		*Pounds per cubic foot*	*Percent*
Frost silt loam:						
SW¼NW¼ sec. 28, T. 4 N., R. 7 E.	Loess over coastal plain sediment.	467336	18–38	B21tg	93. 0	24. 8
		467337	38–51	B22tg	104. 7	18. 7
SW¼SE¼ sec. 21, T. 4 N., R. 7 E.	Loess over coastal plain sediment.	467338	22–40	B21tg	100. 2	20. 9
		467339	40–50	B22tg	104. 9	19. 6

[1] Based on AASHO Designation: T 99–57, Method A (*1*).

[2] Mechanical analysis according to AASHO Designation: T 88–57 (*1*). Results by this procedure may differ somewhat from results obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHO procedure, the fine material is analyzed by the hydrometer method, and the various grain-size fractions are calculated on the basis of all the material, including that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method, and the material coarser

permeability, suitability for agriculture, and water-holding capacity.

Engineering test data

Soil samples from the Frost series in Pike County were tested by standard procedures. The tests were performed by the U.S. Department of Commerce, Bureau of Public Roads. The results of these tests, and the classification of each sample according to both the AASHO and Unified systems, are given in table 5.

Moisture density, the relation of moisture content and the density to which a soil material is compacted, is also given in table 5. If a soil material is compacted at successively higher moisture content, assuming that the compactive effort remains constant, the density of the compacted material increases until the optimum moisture content is reached. After that the density decreases with increase in moisture content. The highest dry density obtained in the compaction test is termed maximum dry density. Moisture-density data are important in earthwork, for, as a rule, optimum stability is obtained if the soil is compacted to about the maximum dry density when it is at approximately the optimum moisture content.

The engineering soil classifications are based on data obtained by mechanical analyses and by tests to determine liquid limits and plastic limits. The mechanical analyses were made by combined sieve and hydrometer methods. Percentages of clay obtained by the hydrometer method should not be used in naming the textural classes for soil classification.

The test to determine liquid limit and plastic limit measures the effect of water on the consistence of the soil material. As the moisture content of a clayey soil increases from a very dry state, the material changes from a semisolid to a plastic state. As the moisture content is further increased, the material changes from a plastic to a liquid state. The plastic limit is the moisture content at which the soil material passes from a semisolid to a plastic state. The liquid limit is the moisture content at which the material passes from a plastic to a liquid state. The plasticity index is the numerical difference between the liquid limit and the plastic limit. It indicates the range of moisture content within which a soil material is plastic.

Recreational Uses of the Soils

The desirability of soils for campsites, picnic areas, playgrounds, and similar recreational facilities is determined by appraising the properties of the soil in relation to the intended use. In table 6, the soils of the county are listed and their limitations as sites for dwellings, campsites, picnic areas, and trafficways are estimated.

The ratings are *slight*, *moderate*, or *severe*. A rating of slight means that the soil has few or no limitations for the use specified or that the limitations can be easily overcome. A rating of moderate indicates that some planning and engineering practices are needed to overcome the limitation. A rating of severe indicates that the soil is poorly suited to the use specified and that intensive engineering practices, as well as a large investment, are needed to overcome the problems. The soil properties that determine these ratings are mentioned with the ratings in table 6.

Dwellings using public or community sewage systems.—The soil properties considered in evaluating for this use are shrink-swell potential, water table, hazard of flooding, slope, and depth to the hard rock. Soils capable of supporting the buildings are needed, and flooding should not be a hazard. The water table should be below a depth of 30 inches for most of the year and should never rise above 15 inches.

Campsites.—A campsite is an area suitable for pitching tents and for living outdoors for a period of 1 week or more. The major properties used in rating the

test data

Public Roads (BPR), in accordance with standard procedures of the American Association of State Highway Officials (AASHO) (*1*)]

Mechanical analysis [2]								Liquid limit	Plasticity index	Classification	
Percentage passing sieve—				Percentage smaller than—						AASHO	Unified [3]
No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	0.05 mm.	0.02 mm.	0.005 mm.	0.002 mm.				
100	100	100	97	93	79	56	49	57	29	A–7–6(19)	MH–CH.
100	100	99	94	90	68	39	33	45	25	A–7–6(15)	CL.
100	100	99	96	90	71	43	38	52	30	A–7–6(18)	CH.
100	100	99	93	87	62	32	27	42	22	A–7–6(13)	CL.

than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analysis data used in this table are not suitable for naming textural classes for soils.

[3] SCS and BPR have agreed to consider that all soils having plasticity indexes within two points from A-line are to be given a borderline classification. Examples of borderline classifications obtained by this use are GM–GC, SM–SC, ML–CL, and MH–CH.

limitations of the soils as campsites are the slope, trafficability, and susceptibility to erosion. Little preparation of the soils at the site should be necessary. The soils should be part of an attractive landscape and be capable of producing trees and grass. They should not be naturally wet and should be able to support people walking.

Picnic areas.—These are areas suitable for pleasure outings at which a meal is eaten out of doors. The chief requirements are an attractive landscape and soils that can support people walking, picnic tables, and fireplaces. Slope, inherent erodibility, and trafficability are important properties.

Intensive play areas.—These are areas developed for playgrounds and for baseball, tennis, badminton, and other organized games. These areas are subject to much foot traffic and generally require a soil that is nearly level, that has good drainage, and that has a texture and consistence providing a firm surface. The soil should not have coarse fragments or rock outcrops. The important soil properties for evaluating a site as an intensive play area are slope, depth to the fragipan or claypan, and trafficability.

Golf fairways.—The soils are rated only according to their limitations as fairways. Their suitability for the rough or for hazards is not considered, because many kinds of soils are suitable for these parts of a golf course. Since most greens are manmade, the soils are not rated for that purpose. The important soil properties are capacity to support cart traffic and people walking, especially soon after a rain; the number of coarse fragments; productivity; and slope.

Trafficways.—These are areas that can be developed into roads and trails at a low cost. The cuts and fills should be small, and the subgrade should require little preparation. The major considerations in rating limitations of soils used for trafficways are slope, depth to water table, hazard of flooding, inherent erodibility, and traffic-supporting capacity.

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Descriptions of the Soils

This section discusses each soil series in Pike County, describes a profile that is typical of each, and describes each mapping unit. The approximate acreage and the proportionate extent of each mapping unit are given in table 7 (p. 39). For full information on any one mapping unit, it is necessary to read the description of the soil series as well as the description of the mapping unit.

Following the name of each mapping unit is a symbol in parentheses. This symbol identifies the mapping unit on the detailed soil map. Listed at the end of the description of each mapping unit are the capability unit and woodland suitability group in which the mapping unit has been placed. The page on which each capability unit and each woodland group is described can be found readily by referring to the "Guide to Mapping Units" at the back of the survey. Many terms used in soil descriptions and other sections of the survey are defined in the Glossary.

Bibb Series

The Bibb series consists of grayish-brown, poorly drained soils that occur in slack-water areas on bottom lands. These soils formed in loamy alluvium. Slopes range from 0 to 2 percent.

Bibb soils occur with Mantachie and Stough soils. Bibb soils are mottled almost to the surface, but Mantachie soils are free of gray mottles to a depth of 10 to 20 inches. Bibb soils do not have so distinct a profile or a fragipan as the yellow Stough soils do.

TABLE 6.—*Limitations to use of soils*

Map symbol	Soil	Dwellings with public or community sewage systems	Campsites
Bb	Bibb loam	Severe: flooding	Severe: trafficability; flooding
BhA	Brookhaven silt loam, 0 to 2 percent slopes	Moderate: water table	Moderate: trafficability
BhB	Brookhaven silt loam, 2 to 5 percent slopes	Moderate: water table	Moderate: trafficability
BhB2	Brookhaven silt loam, 2 to 5 percent slopes, eroded.	Moderate: water table	Moderate: trafficability
BhC2	Brookhaven silt loam, 5 to 8 percent slopes, eroded.	Moderate: water table	Moderate: trafficability
CaF	Cahaba fine sandy loam, 17 to 35 percent slopes.	Severe: slope	Severe: slope
CaF3	Cahaba fine sandy loam, 17 to 35 percent slopes, severely eroded.	Severe: slope; inherent erodibility	Severe: slope; inherent erodibility
Ch	Calhoun silt loam	Severe: water table; flooding	Severe: trafficability
Co	Collins silt loam	Severe: flooding	Moderate: trafficability
Cl	Collins silt loam, local alluvium	Severe: flooding	Moderate: trafficability
Fa	Falaya silt loam	Severe: flooding; water table	Severe: trafficability
Fr	Frost silt loam	Severe: flooding; water table	Severe: trafficability
Gu	Gullied land	Variable	Variable
Io	Iuka and Ochlockonee soils	Severe: flooding	Moderate: flooding; water table
Kn	Kinsey soils	Severe: flooding	Moderate: flooding; water table
Ma	Mantachie fine sandy loam	Severe: water table; flooding	Severe: water table; flooding
Ob	Ochlockonee and Bruno soils	Severe: flooding; water table	Moderate: flooding
OfA	Ora fine sandy loam, 0 to 2 percent slopes	Slight	Slight
OfB	Ora fine sandy loam, 2 to 5 percent slopes	Slight	Slight
OfB2	Ora fine sandy loam, 2 to 5 percent slopes, eroded.	Slight	Slight
OfB3	Ora fine sandy loam, 2 to 5 percent slopes, severely eroded.	Slight	Slight
OfC2	Ora fine sandy loam, 5 to 8 percent slopes, eroded.	Slight	Slight
OfC3	Ora fine sandy loam, 5 to 8 percent slopes, severely eroded.	Slight	Slight
OrC2	Ora-Ruston complex, 5 to 8 percent slopes, eroded.	Slight	Slight
OrC3	Ora-Ruston complex, 5 to 8 percent slopes, severely eroded.	Slight	Slight
PaA	Paden silt loam, 0 to 2 percent slopes	Moderate: water table	Moderate: water table
PrB2	Providence silt loam, 2 to 5 percent slopes, eroded.	Moderate: productivity	Slight
PrC2	Providence silt loam, 5 to 8 percent slopes, eroded.	Slight	Slight
PrC3	Providence silt loam, 5 to 8 percent slopes, severely eroded.	Moderate: productivity	Moderate: trafficability
RmA	Rumford sandy loam, 0 to 3 percent slopes	Slight	Slight
RuB2	Ruston fine sandy loam, 2 to 5 percent slopes, eroded.	Slight	Slight
RuD2	Ruston fine sandy loam, 8 to 12 percent slopes, eroded.	Slight	Severe: slope
RuD3	Ruston fine sandy loam, 8 to 12 percent slopes, severely eroded.	Slight	Severe: slope
RuE2	Ruston fine sandy loam, 12 to 17 percent slopes, eroded.	Severe: slope	Severe: slope
RuE3	Ruston fine sandy loam, 12 to 17 percent slopes, severely eroded.	Severe: slope	Severe: slope
SaC	Saffell gravelly fine sandy loam, 5 to 8 percent slopes.	Slight	Moderate: slope
SaE	Saffell gravelly fine sandy loam, 8 to 17 percent slopes.	Slight	Moderate: slope
SaF	Saffell gravelly fine sandy loam, 17 to 35 percent slopes.	Moderate: slope	Severe: slope

as recreational areas

Picnic areas	Intensive play areas	Golf fairways	Trafficways
Severe: trafficability; flooding	Severe: trafficability; flooding	Severe: trafficability; flooding	Severe: flooding.
Moderate: trafficability	Severe: trafficability	Moderate: trafficability	Moderate: water table; traffic-supporting capacity.
Moderate: trafficability	Severe: trafficability	Slight	Moderate: water table; traffic-supporting capacity.
Moderate: trafficability	Severe: trafficability	Slight	Moderate: water table; traffic-supporting capacity.
Moderate: trafficability	Severe: trafficability	Slight	Moderate: water table; traffic-supporting capacity.
Severe: slope	Severe: slope	Severe: slope	Severe: slope.
Severe: slope; inherent erodibility.	Severe: slope; inherent erodibility.	Severe: slope; inherent erodibility.	Severe: slope; inherent erodibility.
Severe: trafficability	Severe: trafficability	Severe: trafficability; productivity.	Severe: water table; flooding; traffic-supporting capacity.
Moderate: trafficability	Moderate: trafficability	Moderate: trafficability	Severe: flooding; traffic-supporting capacity.
Moderate: trafficability	Moderate: trafficability	Moderate: trafficability	Severe: flooding; traffic-supporting capacity.
Severe: trafficability	Severe: trafficability	Severe: trafficability	Severe: flooding; water table; traffic-supporting capacity.
Severe: trafficability	Severe: trafficability	Severe: trafficability	Severe: flooding; water table; traffic-supporting capacity.
Variable	Variable	Variable	Variable.
Moderate: flooding	Moderate: flooding	Moderate: flooding	Moderate: flooding; water table.
Moderate: flooding	Moderate: flooding	Moderate: flooding	Moderate: flooding; water table.
Severe: flooding; water table	Severe: water table; flooding	Severe: water table; flooding	Severe: water table; flooding; traffic-supporting capacity.
Moderate: flooding	Moderate: flooding	Moderate: flooding	Moderate to severe: flooding.
Slight	Slight	Slight	Slight to moderate: traffic-supporting capacity.
Slight	Slight	Slight	Slight to moderate: traffic-supporting capacity.
Slight	Slight	Slight	Slight to moderate: traffic-supporting capacity.
Slight	Slight	Slight	Slight to moderate: traffic-supporting capacity.
Moderate: slope	Moderate: slope	Moderate: slope	Slight to moderate: traffic-supporting capacity.
Moderate: slope	Moderate: slope	Moderate: slope	Slight to moderate: traffic-supporting capacity.
Moderate: slope	Moderate: slope	Moderate: slope	Slight to moderate: traffic-supporting capacity.
Moderate: slope	Moderate: slope	Moderate: slope	Slight to moderate: traffic-supporting capacity.
Moderate: trafficability	Moderate: trafficability	Moderate: trafficability	Moderate: traffic-supporting capacity.
Slight	Moderate: trafficability	Moderate: trafficability	Slight.
Slight	Moderate: trafficability	Moderate: trafficability	Moderate: inherent erodibility.
Moderate: trafficability	Moderate: trafficability	Moderate: trafficability	Moderate: inherent erodibility.
Slight	Slight	Slight	Slight.
Slight	Slight	Slight	Slight.
Moderate: slope	Severe: slope	Severe: slope	Slight to moderate: slope.
Moderate: slope	Severe: slope	Severe: slope	Slight to moderate: slope.
Moderate: slope	Severe: slope	Severe: slope	Moderate: slope.
Severe: slope	Severe: slope	Severe: slope	Severe: slope and inherent erodibility.
Slight	Moderate: slope	Moderate: slope	Slight.
Moderate: slope	Moderate: slope	Moderate: slope	Slight to moderate: slope.
Severe: slope	Severe: slope	Severe: slope	Slight to moderate: slope.

TABLE 6.—*Limitations to use of soils*

Map symbol	Soil	Dwellings with public or community sewage systems	Campsites
SnB2	Savannah silt loam, 2 to 5 percent slopes, eroded	Moderate: water table	Moderate: water table
SnC2	Savannah silt loam, 5 to 8 percent slopes, eroded	Moderate: water table	Moderate: water table
SoA	Stough silt loam, 0 to 2 percent slopes	Severe: water table	Moderate to severe: water table
SpB	Stough-Prentiss complex, 2 to 5 percent slopes	Severe: water table	Moderate to severe: water table
Wa	Waverly silt loam	Severe: flooding; water table	Severe: trafficability

Profile of Bibb loam, in mixed hardwoods stand, west of Silver Creek Baptist Church (SE¼SW¼ sec. 35, T. 2 N., R. 7 E.):

O1—1 inch to 0, mixed hardwood leaves.
A1—0 to 4 inches, grayish-brown (10YR 5/2) loam; common, fine, distinct mottles of light gray (10YR 7/2); weak, fine, crumb structure; friable; common fine and medium roots; many, soft, small iron and manganese concretions; strongly acid (pH 5.5); clear, smooth boundary.
ACg—4 to 8 inches, mottled grayish-brown (10YR 5/2) and gray (10YR 6/1) loam; weak, fine, crumb structure; friable; common fine and medium roots; many, soft, small iron and manganese concretions; strongly acid (pH 5.5); clear, wavy boundary.
C1g—8 to 16 inches, gray (10YR 6/1) loam; common, medium, distinct mottles of yellowish brown (10YR 5/6); structureless; very friable; many, fine and medium, soft iron and manganese concretions; strongly acid (pH 5.0); clear, smooth boundary.
C2g—16 to 27 inches, light-gray (10YR 7/1) loam; common, medium, distinct mottles of brownish yellow (10YR 6/6); structureless; very friable; very strongly acid (pH 4.5); clear, smooth boundary.
C3g—27 to 35 inches, mottled light-gray (10YR 7/1) and yellowish-brown (10YR 5/6) loam; structureless; very strongly acid (pH 4.5); clear, smooth boundary.
C4g—35 to 50 inches, brownish-yellow (10YR 6/6) loam; common, medium, distinct mottles of light gray (10YR 7/1); structureless; very friable; many, fine and medium, soft iron and manganese concretions; very strongly acid (pH 4.5).

The A1 horizon ranges from grayish brown to dark gray in color and from loam or silt loam to fine sandy loam in texture. The C horizon ranges from loam or silt loam to sandy loam.

Bibb loam (0 to 2 percent slopes) (Bb).—This is a poorly drained, acid, loamy soil on bottom lands subject to overflow.

The surface layer is grayish-brown loam. The subsoil is gray loam that is mottled with brown and yellow and contains small dark concretions.

Mapped with this soil, and making up 5 percent of its area, are Mantachie and Stough soils. The Mantachie soils are brown and sandy, and the Bibb soil is gray. The Stough soils have a well-defined profile, but the Bibb soil does not.

This soil is strongly acid, low in natural fertility, and low in content of organic matter. Permeability is slow.

Most of this soil is used for trees. It is well suited to hardwoods. Small areas have been cleared for pasture. The soil needs drainage. Secondary V- or W-type ditches are needed to remove excess water during periods of high rainfall. Capability unit IVw–1; woodland suitability group 8; woodland range site 3.

Brookhaven Series

The Brookhaven series consists of moderately well drained soils. The soils of this series are in the northwestern part of the county. They formed in a thin mantle of silt over loamy materials. Slopes range from 2 to 8 percent. The surface layer of these soils is dark grayish brown. The subsoil is strong brown to yellowish brown and has a mottled brown and gray fragipan at a depth of 16 to 20 inches.

Brookhaven soils are among the more extensive soils in this county. They occur with Providence, Ora, Frost, and Ruston soils. Brookhaven soils are similar to the Providence soils in having a fragipan and in having formed in a thin layer of silt over loamy material. They differ from the Providence, however, in having a B2 horizon that is essentially free of clay films and in having the fragipan nearer the surface. The Brookhaven soils are dominantly brown, whereas the Frost soils are gray or grayish brown. Brookhaven soils are silty; Ora and Ruston soils, in contrast, are loamy. The Brookhaven are moderately well drained; the Ora soils are well drained like the Ruston.

Profile of Brookhaven silt loam in a forest of mixed pines and hardwoods 2 miles west of Summit, Miss., on U.S. Highway No. 98 (SE¼NW¼ sec. 21, T. 4 N., R. 7 E.):

O1—1 inch to 0, mixed hardwood leaves and pine needles.
A1—0 to 4 inches, dark grayish-brown (10YR 4/2) to grayish-brown (10YR 5/2) silt loam; weak, fine to medium, crumb structure; friable; numerous fine roots; strongly acid (pH 5.5); clear, smooth boundary.
B&A—4 to 6 inches, yellowish-brown (10YR 5/4) silt loam; weak, fine, subangular blocky structure; friable; numerous roots; worm holes and root holes filled with dark grayish-brown (10YR 4/2) silt loam; strongly acid (pH 5.5); clear, wavy boundary.
B2—6 to 17 inches, strong-brown (7.5YR 5/6) to yellowish-brown (10YR 5/8) heavy silt loam; weak, fine to medium, subangular blocky structure; friable; few fine and medium roots; few, discontinuous, thin clay films on some ped faces; strongly acid (pH 5.5); clear, smooth boundary.

as recreational areas—Continued

Picnic areas	Intensive play areas	Golf fairways	Trafficways
Moderate: trafficability; slope.	Moderate: trafficability; slope.	Moderate: trafficability; slope.	Moderate: traffic-supporting capacity; water table.
Moderate: trafficability; slope.	Moderate: trafficability; slope.	Moderate: trafficability; slope.	Moderate: traffic-supporting capacity; water table.
Moderate to severe: water table; trafficability.	Moderate to severe: water table; trafficability.	Moderate to severe: trafficability; water table.	Moderate to severe: water table; traffic-supporting capacity.
Moderate to severe: water table; trafficability.	Moderate to severe: trafficability; water table.	Moderate to severe: trafficability; water table.	Moderate to severe: water table; traffic-supporting capacity.
Severe: trafficability	Severe: trafficability	Severe: trafficability	Severe: water table; flooding; traffic-supporting capacity.

B'x&A'x—17 to 23 inches, mottled yellowish-brown (10YR 5/8), light brownish-gray (10YR 6/2), and strong-brown (7.5YR 5/6) heavy silt loam; mottles are many, medium, distinct; moderate, fine and medium, subangular blocky structure; the A'x is a light brownish-gray (10YR 6/2) silt loam that is not continuous horizontally; firm, hard, brittle; slightly sticky; many voids; thin, continuous clay films on ped faces; light grayish-brown silt coatings; few iron-enriched spots; strongly acid (pH 5.0); clear, wavy boundary.

IIB'x1—23 to 39 inches, mottled yellowish-brown (10YR 5/8), brownish-yellow (10YR 6/6), and light-gray (10YR 7/2) to gray (10YR 6/1) silty clay loam with appreciable content of sand; mottles are many, medium, and distinct; moderate, fine and medium, subangular blocky structure; firm, compact, brittle; slightly sticky; clay films continuous on ped faces; light-gray (10YR 7/2) silt coatings around peds; very strongly acid (pH 4.5); clear, wavy boundary.

IIB'x2—39 to 54 inches, mottled yellowish-brown (10YR 5/8), light-gray (10YR 7/2), and strong-brown (7.5YR 5/8) loam to light clay loam; mottles are many, medium, and distinct; moderate, fine to medium, subangular blocky structure; firm; hard; thin clay films on ped faces; many voids; very strongly acid (pH 4.5).

The B2 horizon ranges from silt loam to silty clay loam in texture, and from yellowish brown to strong

TABLE 7.—*Approximate acreage and proportionate extent of the soils*

Soil	Acres	Percent	Soil	Acres	Percent
Bibb loam	1,222	0.5	Paden silt loam, 0 to 2 percent slopes	1,150	0.4
Brookhaven silt loam, 0 to 2 percent slopes	659	.3	Providence silt loam, 2 to 5 percent slopes, eroded	846	.3
Brookhaven silt loam, 2 to 5 percent slopes	1,363	.5	Providence silt loam, 5 to 8 percent slopes, eroded	3,397	1.3
Brookhaven silt loam, 2 to 5 percent slopes, eroded	10,042	3.8	Providence silt loam, 5 to 8 percent slopes, severely eroded	604	.2
Brookhaven silt loam, 5 to 8 percent slopes, eroded	277	.1	Rumford sandy loam, 0 to 3 percent slopes	636	.2
Cahaba fine sandy loam, 17 to 35 percent slopes	9,800	3.7	Ruston fine sandy loam, 2 to 5 percent slopes, eroded	193	.1
Cahaba fine sandy loam, 17 to 35 percent slopes, severely eroded	515	.2	Ruston fine sandy loam, 8 to 12 percent slopes, eroded	19,668	7.5
Calhoun silt loam	1,208	.5	Ruston fine sandy loam, 8 to 12 percent slopes, severely eroded	7,452	2.8
Collins silt loam	5,324	2.0	Ruston fine sandy loam, 12 to 17 percent slopes, eroded	11,319	4.3
Collins silt loam, local alluvium	1,552	.6	Ruston fine sandy loam, 12 to 17 percent slopes, severely eroded	2,320	.9
Falaya silt loam	21,943	8.4	Saffell gravelly fine sandy loam, 5 to 8 percent slopes	361	.1
Frost silt loam	240	.1	Saffell gravelly fine sandy loam, 8 to 17 percent slopes	4,131	1.6
Gullied land	504	.2	Saffell gravelly fine sandy loam, 17 to 35 percent slopes	7,811	3.0
Iuka and Ochlockonee soils	4,615	1.8	Savannah silt loam, 2 to 5 percent slopes, eroded	30,515	11.6
Kinsey soils	912	.3	Savannah silt loam, 5 to 8 percent slopes, eroded	399	.2
Mantachie fine sandy loam	9,318	3.5	Stough silt loam, 0 to 2 percent slopes	6,301	2.4
Ochlockonee and Bruno soils	697	.3	Stough-Prentiss complex, 2 to 5 percent slopes	1,771	.7
Ora fine sandy loam, 0 to 2 percent slopes	1,266	.5	Waverly silt loam	7,436	2.8
Ora fine sandy loam, 2 to 5 percent slopes	6,012	2.3	Water area	978	.4
Ora fine sandy loam, 2 to 5 percent slopes, eroded	39,981	15.2			
Ora fine sandy loam, 2 to 5 percent slopes, severely eroded	2,138	.8			
Ora fine sandy loam, 5 to 8 percent slopes, eroded	6,808	2.6			
Ora fine sandy loam, 5 to 8 percent slopes, severely eroded	1,523	.6			
Ora-Ruston complex, 5 to 8 percent slopes, eroded	20,348	7.8			
Ora-Ruston complex, 5 to 8 percent slopes, severely eroded	6,895	2.6	Total area surveyed	262,400	100.0

brown in color. The depth to the fragipan ranges from 16 to 20 inches. The IIB'x1 horizon ranges from a silt loam to a loam or clay loam.

Brookhaven silt loam, 0 to 2 percent slopes (BhA).—The surface layer is grayish-brown silt loam 6 to 8 inches thick. The subsoil, to a depth of 16 to 20 inches, is strong-brown silt loam. It is underlain by a mottled brown, yellow, and gray fragipan. Silt loam or loam is under the fragipan, at a depth of 50 to 60 inches.

Mapped with this soil, and making up about 10 percent of its area, are Frost and Providence soils. Frost soils are gray and poorly drained, and Providence soils are brown and have a fragipan at a depth of about 24 inches.

The soil is strongly acid and medium in natural fertility. Runoff is slow to moderate, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan but are retarded in the fragipan. This soil is in good tilth and can be worked throughout a wide range of moisture content.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, and longleaf pines, and to hardwoods. Small areas have been cleared for row crops. The hazard of erosion is generally slight when this soil is cultivated. Capability unit IIw–6; woodland suitability group 3; woodland range site 4.

Brookhaven silt loam, 2 to 5 percent slopes (BhB).—The surface layer is dark grayish-brown silt loam. The subsoil, to a depth of 16 to 20 inches, is yellowish-brown to strong-brown silt loam. It is underlain by a mottled yellow, brown, and gray, moderately well defined fragipan.

Mapped with this soil, and making up 5 to 10 percent of its area, are Frost and Providence soils. Frost soils are gray and poorly drained, and Providence soils are yellowish red, are loamy, and have a fragipan.

The soil is strongly acid and medium in natural fertility. Runoff is slow to moderate, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan, but their growth is retarded in the fragipan. This soil is in good tilth and can be worked throughout a wide range of moisture content. It tends to crust and pack if left bare.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, and longleaf pines, and to hardwoods. Small areas have been cleared for crops. The hazard of erosion is generally slight when this soil is cultivated. Capability unit IIw–6; woodland suitability group 3; woodland range site 4.

Brookhaven silt loam, 2 to 5 percent slopes, eroded (BhB2).—The surface layer is pale-brown silt loam 4 to 6 inches thick. The subsoil, to a depth of 18 inches, is strong-brown silt loam. It is underlain by a mottled brown, yellow, and gray fragipan. Under this is silt loam to loam, at a depth of 50 to 60 inches. The subsoil is exposed in a few eroded places.

Mapped with this soil, and making up 10 percent of its area, are Ora and Providence soils. Ora soils are loamy, and Providence soils are silty and have a fragipan at a depth of about 24 inches.

This soil is strongly acid and medium in natural fertility. It is low in content of organic matter. Runoff is moderate, and the available water capacity is moderate. Water and roots penetrate down to the fragipan. The soil is in good tilth and can be worked throughout a wide range of moisture content. The soil crusts and packs if left bare.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, and longleaf pines. Small areas have been cleared for crops. The hazard of erosion is moderate when the soil is cultivated. Capability unit IIw–6; woodland suitability group 3; woodland range site 4.

Brookhaven silt loam, 5 to 8 percent slopes, eroded (BhC2).—This soil is moderately sloping and eroded.

The surface layer is pale-brown silt loam 4 to 6 inches thick. The subsoil is strong-brown, light silty clay loam. It is underlain by a mottled brown, yellow, and gray silt loam. Under this is a strong-brown to yellowish-red mottled gray loam at a depth of 18 to 24 inches. The subsoil is exposed in a few eroded areas.

Mapped with this soil, and making up 10 percent of its area, are Providence soils that have a fragipan at a depth of 20 to 24 inches. Also included in mapping were small areas that have a loam surface layer.

This soil is strongly acid and medium in natural fertility. It is low in content of organic matter. Runoff is moderate, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan. The soil is in fairly good tilth and can be worked throughout a wide range of moisture content. The soil crusts and packs if left bare.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, and longleaf pines. Small areas have been cleared for crops. The hazard of erosion is moderate when the soil is cultivated. Capability unit IIIe–1; woodland suitability group 3; woodland range site 4.

Bruno Series

The Bruno series consists of dark grayish-brown to brown, well-drained to excessively drained, stratified loamy sands and sandy loams. The soils of this series occur in narrow bands along the banks of the Bogue Chitto River. They formed in sandy loam, loam, and loamy sand alluvium. Slopes range from 0 to 2 percent.

Bruno soils occur with Ochlockonee and Iuka soils. Bruno soils have the same drainage as the Ochlockonee soils but contain more thin layers of sandy loam, loam, and loamy sand. Bruno soils are not mottled, whereas Iuka soils have gray mottles at a depth of 20 to 30 inches, and are not so well drained as Bruno soils.

Profile of Bruno sandy loam in a forest of hardwoods 1 mile east of Holmesville, Miss. (NW¼NE¼ sec. 27, T. 3 N., R. 9 E.):

O1—1 inch to 0, decayed oak leaves.
A1—0 to 3 inches, very dark grayish-brown (10YR 3/2) coarse sandy loam; weak, fine, granular structure; very friable; many fine roots; strongly acid (pH 5.5); abrupt, smooth boundary.
C1—3 to 8 inches, brown (10YR 4/3) coarse sandy loam; structureless; very friable; many fine roots; strongly acid (pH 5.0); clear, smooth boundary.
C2—8 to 25 inches, very pale brown (10YR 7/4) loamy sand; structureless; very friable; strongly acid (pH 5.5); clear, wavy boundary.
C3—25 to 40 inches, stratified very pale brown (10YR 7/3) sand and brown (10YR 4/3) silt; structureless to weak platy structure; very friable; strongly acid (pH 5.5); clear, wavy boundary.

C4—40 to 50 inches, brown (10YR 5/3) sandy loam; structureless; very friable; very strongly acid (pH 4.5).

The A1 horizon ranges from silt loam, loam, or sandy loam to loamy sand in texture. The C horizons are sand, loamy sand, loam, sandy loam, or silt loam.

In this county, Bruno soils are mapped only with Ochlockonee soils.

Cahaba Series

The Cahaba series consists of dark grayish-brown, well-drained, permeable soils on very steep side slopes throughout the county. These soils formed in sandy loam and sandy material. Slopes range from 17 to 35 percent.

Cahaba soils occur with Ruston and Saffell soils. Cahaba soils have a thin sandy clay loam B2 horizon 10 to 15 inches thick, but Ruston soils have a thick sandy clay loam B2 horizon 30 to 40 inches thick. Cahaba soils lack the large amount of gravel present in the profile of the Saffell soils.

Profile of Cahaba fine sandy loam (sec. 16, T. 3 N., R. 9 E.):

O1—1 inch to 0, pine needles.
A1—0 to 6 inches, very dark grayish-brown (10YR 3/2) fine sandy loam; weak, fine, granular structure; friable; many fine roots; strongly acid (pH 5.5); abrupt, smooth boundary.
A2—6 to 13 inches, grayish-brown (10YR 5/2) sandy loam; weak, fine, granular structure; friable; few fine roots; strongly acid (pH 5.5); abrupt, smooth boundary.
B1—13 to 17 inches, yellowish-brown (10YR 5/6) sandy loam; weak, fine, subangular blocky structure; friable; few fine roots; strongly acid (pH 5.5); clear, smooth boundary.
B2t—17 to 30 inches, yellowish-red (5YR 5/6) sandy clay loam; moderate, fine and medium, subangular blocky structure; friable to firm; clay bridging on sand grains, and a few clay films on some ped faces; strongly acid (pH 5.5); clear, wavy boundary.
B3t—30 to 54 inches, yellowish-red (5YR 5/6) sandy loam; weak, fine, subangular blocky structure; friable; some scattered clay bridging on sand grains; strongly acid (pH 5.0).

The A horizon ranges from very dark grayish brown to grayish brown in color and from fine sandy loam to sandy loam in texture. The B2t horizon ranges from 10 to 15 inches in thickness and overlies a horizon ranging from light sandy clay loam to sandy loam.

Cahaba fine sandy loam, 17 to 35 percent slopes (CaF).—This is a well-drained loamy soil.

The surface layer of this soil is very dark grayish-brown fine sandy loam 10 to 16 inches thick. The subsoil, to a depth of 27 to 36 inches, is yellowish-red sandy clay loam. It is underlain by a friable, yellowish-red sandy loam. Rills and a few shallow gullies occur in some areas.

Mapped with this soil, and making up 10 percent of its area, are Saffell and Ruston soils, both of which are yellowish red in color. Saffell soils are gravelly; Ruston soils have a thick sandy clay loam subsoil. In about one-third of this soil there are eroded areas that have a brown surface layer 4 to 12 inches thick.

This soil is strongly acid and low to medium in natural fertility. Runoff is rapid, and the available water capacity is moderate. Infiltration is high. Water and roots easily penetrate the soil, and the tilth is good.

Most of this soil is used for trees and pasture. Small areas have been cleared for row crops. The soil is well suited to loblolly and shortleaf pines and mixed hardwoods. The hazard of erosion is severe when this soil is cultivated. Capability unit VIIe–2; woodland suitability group 1; woodland range site 2.

Cahaba fine sandy loam, 17 to 35 percent slopes, severely eroded (CaF3).—This is a well-drained loamy soil. The surface layer is yellowish red to strong brown and yellowish brown and 4 to 6 inches thick. It consists of a mixture of remnants of the surface soil and materials from the subsoil. The subsoil, to a depth of 30 to 40 inches, is yellowish-red sandy clay loam. It is underlain by yellowish-red sandy loam. Rills and shallow gullies occur in some areas, and in a few the gullies are deep.

Mapped with this soil, and making up 10 percent of its area, are Saffell soils that have a surface layer of yellowish-red gravelly sandy loam.

This Cahaba soil is strongly acid and low in natural fertility. Runoff is rapid, and the available water capacity is moderate. Water and roots easily penetrate. Tilth is fair to poor, and the soil tends to clod, crust, and pack where the subsoil is exposed.

This soil was once cleared, but most of it is now used for trees and pasture. Large areas are in pasture, are idle, or are reverting to pine forest. The soil is well suited to loblolly, shortleaf, and longleaf pines. The hazard of erosion is severe when this soil is cultivated. Capability unit VIIe–2; woodland suitability group 2; woodland range site 2.

Calhoun Series

The Calhoun series consists of gray, poorly drained soils that occur on flats or in depressional areas along the larger streams in the county. These soils formed in silty material. Slopes range from 0 to 2 percent.

The Calhoun soils occur with Ora and Stough soils. Calhoun soils are more poorly drained than those soils. They lack a fragipan, which the Ora and Stough soils both have. Calhoun soils are gray; Ora soils are yellowish red; and Stough soils are yellowish brown.

Profile of Calhoun silt loam in a pasture north of Holmesville, Miss., along Topisaw Creek (NW¼NW¼ sec. 10, T. 3 N., R. 9 E.):

A1—0 to 4 inches, gray (10YR 6/1) silt loam stained with yellowish brown (10YR 5/6); weak, fine, crumb structure; friable; many grass roots; strongly acid (pH 5.5); abrupt, smooth boundary.
A21g—4 to 6 inches, mixed gray (10YR 6/1) and light brownish-gray (10YR 6/2) silt loam; weak, fine, crumb structure; friable; few roots; few, fine, iron and manganese concretions; strongly acid (pH 5.5); clear, wavy boundary.
A22g—6 to 10 inches, light-gray (10YR 7/2) silt loam; few, fine, distinct mottles of yellowish brown (10YR 5/6); weak, fine, subangular blocky structure; friable; many fine manganese and iron concretions; few roots; very strongly acid (pH 4.5); clear, wavy boundary.
A23g—10 to 18 inches, light-gray (10YR 6/1) silt loam; few, medium, distinct mottles of yellowish brown (10YR 5/6); weak, fine, subangular blocky structure; friable; few thin clay films; many, fine, soft manganese and iron concretions; very strongly acid (pH 4.5); irregular, wavy boundary.
B21tg—18 to 36 inches, light-gray (10YR 6/1) silt loam to silty clay loam; few, medium, distinct mottles of

yellowish brown (10YR 5/6); weak, coarse, angular blocky structure to moderate, medium, subangular blocky structure; firm; thin continuous clay films on macrosurfaces; voids; many fine tongues of gray silt loam from A horizon; soft iron and manganese concretions; very strongly acid (pH 4.5); abrupt, smooth boundary.

B22tg—36 to 54 inches +, light-gray (10YR 6/1) silty clay loam to silt loam; common, medium, distinct mottles of brownish yellow (10YR 6/6); weak to moderate, fine and medium, subangular blocky structure; friable to firm; clay films on ped faces; many, fine, soft iron and manganese concretions; a few small quartz pebbles; very strongly acid (pH 4.5).

The A1 horizon ranges from gray or grayish brown to pale brown in color and from silt to silt loam in texture. Iron and manganese concretions do not occur in some profiles. The B21tg horizon is at a depth of 18 to 22 inches.

Calhoun silt loam (0 to 2 percent slopes) (Ch).—This is a poorly drained silty soil on stream terraces.

The surface layer is gray silt loam; the subsoil is mottled gray and yellow silt loam to silty clay loam.

Mapped with this soil, and making up 5 percent of its area, are Stough and Ora soils, both of which have a fragipan. Stough soils are yellow, and Ora soils are red. Also included in mapping are small areas that have a loam surface layer.

This soil is strongly acid and low to medium in natural fertility. Runoff is slow, and the available water capacity is moderate. Infiltration and percolation are slow to very slow. A fluctuating water table keeps the soil wet in winter, and for part of the year the water stands on the surface. In summer and fall the soil is often so dry that growth of plants is retarded in the gray, gleyed layer.

Most of this soil is used for growing hardwood trees and pasture, and of these two, the trees are more important. Small areas have been cleared for shallow-rooted row crops. Cultivated areas are subject to frequent flooding. The soil needs drainage. Dragline ditches or V- or W-type ditches are used in most pastures to remove water during periods of high rainfall. Capability unit IVw–2; woodland suitability group 10; woodland range site 5.

Collins Series

The Collins series consists of brown to very dark grayish-brown, moderately well drained, permeable soils that occur on the bottom lands along the streams of this county. These soils formed in silty alluvium. Slopes range from 0 to 2 percent.

Collins soils occur with Falaya and Waverly soils. The Collins soils have gray mottling at a depth of 20 to 30 inches; the Falaya soils, in contrast, have gray mottling at a depth of 10 to 20 inches, and the Waverly have gray mottling at 10 inches or less from the surface.

Profile of Collins silt loam in a pasture 3 miles south of McComb, Miss., on U.S. Highway No. 51, east side of highway (NE¼SE¼ Sec. 25, T. 3 N., R. 7 E.):

Ap—0 to 5 inches, very dark grayish-brown (10YR 3/2) silt loam; few, fine, faint root stains of very pale brown (10YR 7/3); weak, fine, granular structure; friable; many fine roots; medium acid (pH 6.0); abrupt, smooth boundary.

C1—5 to 13 inches, brown (10YR 4/3) silt loam; weak, fine, granular structure; friable; many fine roots; strongly acid (pH 5.5); clear, wavy boundary.

C2—13 to 23 inches, brown (10YR 4/3) silt loam; few, fine, faint mottles of very pale brown (10YR 7/4); structureless; friable; many fine roots; strongly acid (pH 5.0); clear, wavy boundary.

C3—23 to 31 inches, yellowish-brown (10YR 5/4) silt loam; common, medium, distinct mottles of light gray (10YR 7/2); structureless; friable; few fine roots; strongly acid (pH 5.0); clear, wavy boundary.

C4g—31 to 54 inches, light-gray (10YR 7/1) silt loam; common, medium, distinct mottles of yellowish brown (10YR 5/6); structureless; friable; few, soft, iron and manganese concretions; very strongly acid (pH 4.5).

The Ap horizon ranges from very dark grayish brown to brown in color. The C horizons are dominantly dark brown to yellowish brown. Gray mottles occur at a depth of 20 to 30 inches in some places, and a gleyed layer occurs at a depth of 25 to 36 inches.

Collins silt loam (0 to 2 percent slopes) (Co).—This is a moderately well drained soil of the bottom lands. The surface layer is brown to very dark grayish-brown silt loam. The subsoil, to a depth of 18 to 25 inches, is brown to yellowish-brown silt loam. It is underlain by gray or gray and brown silt loam.

Mapped with this soil, and making up 5 to 10 percent of its area, are Falaya and Waverly soils. Falaya soils are somewhat poorly drained and dark grayish brown, and Waverly soils are poorly drained and gray. Also included in mapping were small areas that have a loam and fine sandy loam surface layer.

This soil is strongly acid and medium in natural fertility. The available water capacity is high, and overflow is a hazard. Water and roots easily penetrate down to the gray layers. Tilth is good, and the soil can be worked throughout a fairly wide range of moisture content. It tends to crust and pack if left bare.

Most of this soil is used for trees and pasture. Small areas have been cleared for crops. The soil is well suited to hardwoods and loblolly pine. The hazard of erosion is slight when this soil is cultivated. This soil needs drainage, and W-type ditches are used to remove excess water in low areas. Caving streambanks and overfalls are problems in some areas. Capability unit IIw–1; woodland suitability group 5; woodland range site 5.

Collins silt loam, local alluvium (0 to 2 percent slopes) (Cl).—This is a moderately well drained silty soil that formed in alluvium washed from nearby areas. It occurs on bottom lands less than 200 feet wide along the upper reaches of drainageways throughout the county.

The surface layer of this soil is brown to very dark grayish-brown silt loam. The subsoil, to a depth of 25 to 36 inches, is brown to yellowish-brown silt loam. Under this is silt loam with gray, gleyed mottles. In most places, buried soils of the kind normally on the uplands occur at a depth of 30 to 50 inches.

Mapped with this soil, and making up 5 to 10 percent of its area, are Falaya soils, which are gray and somewhat poorly drained.

The soil is strongly acid and medium in natural fertility. The available water capacity is high. Flooding occurs briefly during heavy rains. Water and roots easily penetrate the soil. The tilth is good, and the soil can be worked throughout a wide range of moisture content.

Most of this soil is used for pasture and crops. Small areas grow trees. The soil is well suited to mixed hardwoods and loblolly pine. In some places vegetable gar-

dens are planted and truck crops are grown for market. The hazard of erosion is slight when this soil is cultivated. Capability unit IIw–1; woodland suitability group 5; woodland range site 5.

Falaya Series

The Falaya series consists of dark-brown to dark grayish-brown, somewhat poorly drained soils that occur on narrow and wide bottom lands along the streams throughout this county. These soils formed in sediments that washed from silty soils. Slopes range from 0 to 2 percent.

The Falaya soils occur with Collins and Waverly soils. Falaya soils have gray mottling or a gleyed horizon at a depth of 10 to 20 inches; Collins soils, in contrast, have gray mottling or a gleyed horizon at a depth of 20 to 30 inches; and the Waverly, gray mottling and a gleyed horizon at a depth of 10 inches or less from the surface.

Profile of Falaya silt loam in a pasture 3 miles south of McComb, Miss., on U.S. Highway No. 51, west 1 mile in the bottom back of the Pike County Fair Grounds (SE¼ NW¼ sec. 25, T. 3 N., R. 7 E.):

Ap—0 to 6 inches, very dark grayish-brown (10YR 3/2) silt loam; weak, fine, granular structure; friable; many fine roots; medium acid (pH 6.0); abrupt, smooth boundary.

C1—6 to 12 inches, yellowish-brown (10YR 5/4) silt loam; few, fine, faint mottles of light yellowish brown (10YR 6/4); weak, fine, granular structure; friable; many fine roots; strongly acid (pH 5.5); clear, wavy boundary.

C2—12 to 17 inches, yellowish-brown (10YR 5/4) silt loam; common, fine, faint mottles of light brownish gray (10YR 6/2); structureless; friable; few fine roots; strongly acid (pH 5.5); clear, smooth boundary.

C3g—17 to 33 inches, light-gray (10YR 7/1) silt loam; common, medium, distinct mottles of brown (10YR 4/3); structureless; friable; many, fine, soft iron and manganese concretions; strongly acid (pH 5.5); clear, wavy boundary.

C4g—33 to 54 inches, mottled light-gray (10YR 7/2) and very dark grayish-brown (10YR 3/2) silt loam; structureless; friable; many, weak, soft iron and manganese concretions; strongly acid (pH 5.5).

The Ap horizon of these soils is either silt loam or loam in texture.

Falaya silt loam (0 to 2 percent slopes) (Fa).—The surface layer of this soil is very dark grayish-brown to brown silt loam. The subsoil, to a depth of 10 to 20 inches, is brown silt loam with gray, gleyed mottles. It is underlain by mottled gray and grayish-brown silt loam.

This soil is strongly acid and medium in natural fertility. The available water capacity is moderate. Water and roots easily penetrate down to the gray, gleyed layer at a depth of 10 to 20 inches. Tilth is good, and the soil can be worked throughout a wide range of moisture content. It has a tendency to crust and pack if left bare.

Most of this soil is used for trees and pasture. Small areas have been cleared for crops. The soil is well suited to hardwoods and loblolly pine. Flooding is a hazard to this soil, and drainage is needed. V- or W-type ditches are used to remove excess surface water. The hazard of erosion is slight when this soil is cultivated. Capability unit IIw–2; woodland suitability group 6; woodland range site 5.

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Frost Series

The Frost series consists of dark grayish-brown to gray, poorly drained soils that occur in small depressional areas or on flats on uplands throughout the county. These soils formed in silt loam and silty clay loam materials. Slopes range from 0 to 2 percent.

Frost soils occur with Brookhaven and Paden soils. Frost soils have gleyed, gray mottling and a claypan. The Brookhaven and Paden soils, in contrast, are yellowish brown to strong brown and have a fragipan. Frost soils have a B horizon that has thick clay skins and tongues of dark-gray silty clay loam. Brookhaven and Paden soils have clay skins in the fragipan, but no tonguing.

Profile of Frost silt loam in a pasture on a 1 percent slope, located 3 miles west of Summit, Miss., on U.S. Highway No. 98, 200 feet south of house (SW¼SE¼ sec. 21, T. 4 N., R. 7 E.):

Apg—0 to 5 inches, mottled grayish-brown (10YR 5/2) and gray (10YR 6/1) silt loam; weak, fine, crumb structure; friable; common fine roots; very strongly acid (pH 4.5); clear, wavy boundary.

A21g—5 to 18 inches, light brownish-gray (10YR 6/2) silt loam; many fine and medium, distinct, strong-brown (7.5YR 5/6) mottles and root stains; weak, fine and medium, subangular blocky structure; friable; hard; few, fine, black (10YR 2/1) and strong-brown (7.5YR 5/6) concretions; few fine roots; very strongly acid (pH 4.5); gradual, wavy boundary.

A22g&Bg—18 to 22 inches, gray (10YR 6/1) silt loam; many, fine and medium, distinct, strong-brown (7.5YR 5/6) root stains and mottles; weak, medium, prismatic structure breaking into weak, fine and medium, subangular blocky structure; friable; hard; few, patchy clay films of gray (10YR 5/1); few, fine, black (10YR 2/1) and yellowish-red (5YR 4/6) concretions; tongues about 3 inches wide at the top, 4 or 5 inches deep, and 6 inches apart extend from this horizon to next lower horizon; very strongly acid (pH 4.5); clear, irregular boundary.

B21tg—22 to 40 inches, heavy silt loam to silty clay; interior of peds mottled with gray (10YR 6/1 and 10YR 5/1) and strong brown (7.5YR 5/6); thick, dark-gray (10YR 4/1) clay films around most of the peds; moderate, medium, prismatic structure breaking to strong, fine and medium, angular blocky structure; firm; plastic; very hard; many, fine, (1 to 2 mm.), light-gray (10YR 7/1) silt pockets inside peds; many, fine, yellowish-red (5YR 4/6) films and mottles on faces of the peds occurring in the silt pockets; few to common, fine, soft, black (10YR 2/1) and yellowish-red (5YR 4/6) concretions; very strongly acid (pH 4.5); gradual, wavy boundary.

B22tg—40 to 50 inches, light brownish-gray (2.5Y 6/2) silty clay loam or heavy silt loam; many, fine and medium, faint, gray (10YR 6/1) mottles and many, fine and medium, prominent, yellowish-red (5YR 5/6) mottles; moderate, medium, prismatic structure that breaks to strong, fine and medium, angular blocky structure; firm; plastic; very hard; light-gray (10YR 7/1) silt coats on many of the ped faces; common, fine (1 to 2 mm.), light-gray (10YR 7/1) silt pockets inside peds; grayish-brown (10YR 5/2) clay films on many of the peds; dark-gray (10YR 4/1) clay films in some of the cracks; few, fine, black (10YR 2/1) and yellowish-red (5YR 4/6) concretions; very strongly acid (pH 4.5); diffuse, wavy boundary.

B3tg—50 to 72 inches, gray (10YR 6/1) heavy silt loam; many, medium, distinct, yellowish-brown (10YR 5/6) and strong-brown (7.5YR 5/6) mottles; weak, medium, prismatic structure that breaks to moderate, medium, angular blocky structure; firm; plastic; extremely hard; gray (10YR 6/1) silt coats on many of the peds; patchy gray (10YR 6/1) clay films on ped

faces; few, fine, black (10YR 2/1) and yellowish-red (5YR 5/6) concretions; extremely acid (pH 4.0).

The depth to the claypan ranges from 18 to 22 inches. In some places, brown manganese and iron concretions are present in all horizons. The B3tg horizon ranges from silt loam to loam in texture.

Frost silt loam (0 to 2 percent slopes) (Fr).—This is a poorly drained silty soil that has a claypan.

The surface layer of this soil is dark grayish-brown to gray, gleyed silt loam 14 to 22 inches thick. The subsoil is mottled gray, yellow, and brown silty clay loam that has a claypan. It is underlain by gray and yellowish-brown to strong-brown silty clay loam.

Mapped with this soil, and making up 3 to 5 percent of its area, are Brookhaven and Savannah soils, which are brown and have a fragipan.

This soil is strongly acid and low in natural fertility. The available water capacity is moderate, and runoff is slow. Water stands on this soil during wet periods. Water and root movement are retarded by the claypan and a fluctuating high water table.

Most of this soil is used for hardwoods. Small areas have been cleared for pasture and crops. Drainage is needed when this soil is cultivated. Erosion is generally no hazard. Capability unit IIIw–1; woodland suitability group 9; woodland range site 4.

Gullied Land

Gullied land (Gu) consists of silty and sandy materials that have been severely eroded and gullied. Erosion has removed the surface layer and much of the subsoil. In places all of the layer of silty material has been washed away and the sandy material is exposed. Many of the gullies are too deep to be crossed with farm machinery.

Runoff is rapid; the capacity to hold available moisture is low.

Most of this land type is used for trees and pasture, though it was once cultivated. The yields of pasture are low. Only by slow and expensive practices can areas of this land be reclaimed for crops. Capability unit VIIe–1; woodland suitability group 15; not assigned to a woodland range site.

Iuka Series

The Iuka series consists of dark grayish-brown to brown, moderately well drained, permeable soils on the bottom lands along the Bogue Chitto River. These soils formed in loamy alluvium. Slopes range from 0 to 2 percent.

Iuka soils occur with Bruno, Ochlockonee, Mantachie, and Bibb soils. Iuka soils are not so stratified with sand, loamy sand, or loam as Bruno soils. Iuka soils have gray mottling at a depth of 20 to 30 inches; Ochlockonee soils, in contrast, have no gray mottling to a depth of 30 to 40 inches; Mantachie soils have gray mottling at a depth of 10 to 20 inches; and the Bibb, gray mottling at 10 inches or less from the surface.

Profile of Iuka sandy loam from a mixed forest of hardwoods (SE¼SW¼ sec. 22, T. 3 N., R. 9 E.):

A1—0 to 6 inches, dark grayish-brown (10YR 4/2) sandy loam; weak, fine, granular structure; very friable; many fine and medium roots; strongly acid (pH 5.5); abrupt, smooth boundary.

C1—6 to 18 inches, brown (10YR 5/3) sandy loam; structureless; very friable; many fine and medium roots; strongly acid (pH 5.5); clear, wavy boundary.

C2—18 to 22 inches, brown (10YR 5/3) sandy loam; few, fine, distinct mottles of light gray (10YR 7/2); structureless; very friable; few fine roots; strongly acid (pH 5.5); clear, wavy boundary.

C3—22 to 30 inches, brown (10YR 5/3) sandy loam; common, medium, distinct mottles of light gray (10YR 7/2); structureless; few soft iron and manganese concretions; strongly acid (pH 5.5); abrupt, smooth boundary.

C4—30 to 36 inches, mottled light-gray (10YR 7/2), brown (10YR 5/3), and brownish-yellow (10YR 6/6) sandy loam; mottles are common, medium, and distinct; structureless; very friable; few soft iron and manganese concretions; strongly acid (pH 5.0); abrupt, smooth boundary.

C5g—36 to 54 inches, light-gray (10YR 7/2) sandy loam; common, medium, distinct mottles of yellowish brown (10YR 5/4); structureless; very friable; very strongly acid (pH 4.5).

The A1 horizon ranges from dark grayish brown to dark gray in color and from silt loam or loam to sandy loam in texture. The underlying horizons are sandy loam to loam.

Iuka and Ochlockonee soils (0 to 2 percent slopes) (Io).—In this mapping unit are moderately well drained Iuka and well drained Ochlockonee soils that are intermixed in narrow bands on the bottom lands.

The surface layer of the Iuka soil is dark grayish-brown silt loam, loam, or sandy loam. The subsoil, to a depth of 20 to 30 inches, is brown sandy loam or loam with gray mottles or with a gleyed layer.

The surface layer of Ochlockonee soil is dark grayish-brown to dark gray silt loam, loam, or sandy loam. The subsoil is brown loam, sandy loam, or loamy sand.

Mapped with these soils and making up 5 to 10 percent of their area are Bibb soils, which are gray and poorly drained.

Iuka and Ochlockonee soils are strongly acid and medium in natural fertility. Their available water capacity is moderate. Water and roots easily penetrate these soils. Tilth is good, and these soils can be worked throughout a wide range of moisture content.

Most areas of these soils are used for hardwoods. Small areas have been cleared for pasture and crops. These soils overflow frequently, and there is flood damage to crops. The hazard of erosion is slight when these soils are cultivated. Capability unit IIw–3; woodland suitability group 13; woodland range site 3.

Kinsey Series

The Kinsey series consists of moderately well drained to well drained loamy soils that formed in loamy alluvium. They are on narrow bottoms at the heads of drains throughout the county.

Kinsey soils occur with Mantachie and Iuka soils. Kinsey soils are underlain by buried soils at a depth of 25 to 38 inches, but Iuka and Mantachie soils formed in 6 or more feet of recent alluvium. Kinsey and Iuka soils are moderately well drained to well drained, but Mantachie soils are somewhat poorly drained and have gray mottling 10 to 20 inches from the surface.

Profile of Kinsey loam in a pasture 2 miles east of Fernwood, Miss., on a gravel road (NW¼SE¼ sec. 32, T. 3 N., R. 8 E.):

Ap—0 to 6 inches, very dark grayish-brown (10YR 3/2) loam; weak, fine, granular structure; very friable; many fine and medium roots; strongly acid (pH 5.5); clear, wavy boundary.
C1—6 to 20 inches, dark grayish-brown (10YR 4/2) to brown (10YR 5/3) sandy loam; structureless; very friable; many fine and medium roots; strongly acid (pH 5.5); clear, wavy boundary.
C2—20 to 32 inches, dark grayish-brown (10YR 4/2) loam; few, medium, faint mottles of grayish brown (10YR 5/2); structureless; very friable; strongly acid (pH 5.0); abrupt, smooth boundary.
Bb—32 to 54 inches, yellowish-red (5YR 4/8) sandy clay loam; weak, fine, subangular blocky structure; friable; strongly acid (pH 5.0).

The A horizon ranges from very dark grayish brown to brown in color and from loam to sandy loam, or in a few areas silt loam, in texture.

Kinsey soils (0 to 2 percent slopes) (Kn).—In this mapping unit are moderately well drained to well drained loamy soils that formed in alluvium deposited on narrow bottom lands near the heads of drainageways.

The surface layer of these soils is very dark grayish-brown to brown loam to sandy loam. The subsoil, to a depth of 20 to 30 inches, is grayish-brown sandy loam. Below this sandy loam is a gleyed layer of gray, or mottled gray and brown, sandy loam. Some buried soils of the kind that occur on uplands are at a depth of 25 to 38 inches.

Mapped with these Kinsey soils, and making up 5 to 10 percent of their area, are Mantachie and Iuka soils. Mantachie soils are gray and somewhat poorly drained. Iuka soils are moderately well drained, and have formed in thicker alluvium than the Kinsey soils.

The Kinsey soils are strongly acid and medium in natural fertility. Water and roots easily penetrate. Tilth is good, and these soils can be worked throughout a wide range of moisture content.

The Kinsey soils are used mainly for pasture and crops. They are well suited to mixed hardwoods and loblolly pines. In some areas vegetable gardens are planted and truck crops are grown. These soils are flooded during periods of heavy rains, but flooding is of short duration. The hazard of erosion is slight when these soils are cultivated. Capability unit IIw–3; woodland suitability group 13; woodland range site 3.

Mantachie Series

The Mantachie series consists of dark grayish-brown to brown and gray, somewhat poorly drained soils that occur on narrow and wide bottom lands along the streams in the eastern part of the county. These soils formed in loamy alluvium that washed from loamy soils. Slopes range from 0 to 2 percent.

The Mantachie soils occur with Bibb and Iuka soils. Mantachie soils have gleyed horizons and gray mottling at a depth of 10 to 20 inches; Bibb soils, in contrast, have gray gleyed horizons 10 inches or less from the surface; and the Iuka, gray mottling at a depth of 20 to 30 inches.

Profile of Mantachie fine sandy loam in a mixed forest of hardwoods east of Felders Camp Ground (NE¼SW¼ sec. 16, T. 4 N., R. 9 E.):

O1—1 inch to 0, hardwood leaves.
A1—0 to 5 inches, dark grayish-brown (10YR 4/2) fine sandy loam; a few, faint, distinct mottles of brownish yellow (10YR 6/6); weak, fine, granular structure; very friable; many fine and medium roots; strongly acid (pH 5.5); abrupt, smooth boundary.
C1—5 to 10 inches, brown (10YR 4/3) loam; weak, fine, granular structure; very friable; many fine and medium roots; strongly acid (pH 5.5); clear, wavy boundary.
C2—10 to 12 inches, brown (10YR 4/3) sandy loam; sand lens of light yellowish brown (10YR 6/4); structureless; very friable; few fine roots; strongly acid (pH 5.0); clear, wavy boundary.
C3—12 to 15 inches, dark grayish-brown (10YR 4/2) loam; common, medium, distinct mottles of light gray (10YR 7/2); structureless; very friable; common, fine, soft iron and manganese concretions; strongly acid (pH 5.0); clear, wavy boundary.
C4g—15 to 23 inches, mottled light-gray (10YR 7/2) and very dark grayish-brown (10YR 3/2) loam; structureless; friable; many fine and medium, soft iron and manganese concretions; strongly acid (pH 5.0); clear, wavy boundary.
C5g—23 to 35 inches, light-gray (10YR 7/2) silt loam to loam; common, fine, distinct mottles of yellowish brown (10YR 5/6); structureless; friable; many, fine and medium, soft iron and manganese concretions; strongly acid (pH 5.0); clear, wavy boundary.
C6g—35 to 48 inches, mottled light-gray (10YR 7/1) and yellowish-brown (10YR 5/6) loam; structureless; friable; many soft iron and manganese concretions; very strongly acid (pH 4.5).

The A1 horizon ranges from dark grayish brown to grayish brown in color, and from fine sandy loam or loam to silt loam in texture. The gleyed, mottled gray and yellow horizon occurs at a depth of 10 to 20 inches. It is underlain by loam or sandy loam to silt loam.

Mantachie fine sandy loam (0 to 2 percent slopes) (Ma).—The surface layer of this soil is a dark grayish-brown to grayish-brown fine sandy loam. The underlying material, to a depth of 10 to 20 inches, is loam, sandy loam, and mottled loam, in that sequence downward. Gleyed loam or silt loam underlies the mottled layer.

This soil is strongly acid and medium in natural fertility. The available water capacity is moderate. Water and roots easily penetrate but are retarded at a depth of 10 to 20 inches by a fluctuating water table. The soil is flooded during heavy rains, but the floods recede quickly.

Most of this soil is used for trees. Comparatively large acreages are in pasture, and smaller acreages in crops. The soil is well suited to hardwoods and loblolly pines. Flooding is occasional to frequent, and it frequently damages crops. The soil needs drainage. V- or W-type ditches are used to remove excess water. The hazard of erosion is slight when this soil is cultivated. Capability unit IIw–4; woodland suitability group 11; woodland range site 3.

Ochlockonee Series

The Ochlockonee series consists of dark grayish-brown to brown, well-drained, permeable soils that occur along the bottoms of the Bogue Chitto River and Topisaw Creek. These soils formed in sediments that washed from sandy soils. Slopes range from 0 to 2 percent.

Ochlockonee soils occur with Bruno and Iuka soils. Ochlockonee soils are not so sandy or so stratified as Bruno soils. Ochlockonee soils are brown to a depth of more than 30 inches and are well drained; Iuka soils, in contrast, have gray mottles at a depth of 20 to 30 inches.

Profile of Ochlockonee loam in a mixed forest of hardwoods (SE¼SW¼ sec. 22, T. 3 N., R. 9 E.):

O1—1 inch to 0, decayed hardwood leaves.
A11—0 to 3 inches, dark grayish-brown (10YR 4/2) loam; weak, fine, granular structure; very friable; many fine and medium roots; strongly acid (pH 5.5); abrupt, smooth boundary.
A12—3 to 7 inches, dark grayish-brown (10YR 4/2) loam mixed with brown (10YR 5/3); weak, fine, granular structure; very friable; many fine and medium roots; strongly acid (pH 5.5); clear, wavy boundary.
C1—7 to 19 inches, brown (10YR 4/3) sandy loam; structureless; very friable; few fine roots; strongly acid (pH 5.0); clear, wavy boundary.
C2—19 to 30 inches, dark grayish-brown (10YR 4/2) sandy loam; structureless; very friable; strongly acid (pH 5.0); abrupt, smooth boundary.
C3—30 to 50 inches, yellowish-brown (10YR 5/6) loamy sand; structureless; very friable; strongly acid (pH 5.0).

The A11 horizon ranges from a dark grayish brown to grayish brown in color and from a loam or silt loam to sandy loam in texture. It is underlain by loam or sandy loam.

Ochlockonee and Bruno soils (0 to 2 percent slopes) (Ob).—In this mapping unit are well drained Ochlockonee and excessively drained Bruno soils that are covered with hardwoods along the Bogue Chitto and Topisaw Rivers. The total extent of the mapping unit is only 697 acres.

The surface layer of the Ochlockonee soil is dark grayish-brown to brown loam, sandy loam, or silt loam. The subsoil is brown loam and sandy loam.

The surface layer of the Bruno soil is very dark grayish-brown sandy loam and loamy sand. The subsoil is brown and yellow loamy sand, sandy loam, and sand.

Mapped with these soils, and making up 5 to 10 percent of their area, are Bibb soils which are gray and poorly drained.

The soils of this mapping unit are strongly acid and low in natural fertility. Water and roots easily penetrate. Tilth is good, and these soils can be worked throughout a wide range of moisture content.

All of these soils are used for mixed hardwood trees. Flooding is frequent, and crops are not grown. Capability unit IVw–3; woodland suitability group 13; woodland range site 3.

Ora Series

The Ora series consists of well drained soils that occur throughout the county on narrow and broad ridges. They are among the most extensive soils in the county. They formed in sandy loam material. Slopes range from 0 to 8 percent. The surface layer is dark brown to very dark grayish brown, and the subsoil is strong brown or yellowish red.

Ora soils occur with Ruston and Savannah soils. They have a less well defined fragipan than the Savannah soils and have an upper B horizon that is yellowish red, instead of the yellowish-brown to strong-brown B horizon of the Savannah soils. Ora soils are similar to the Ruston, but Ora soils have a fragipan at a depth of 22 to 28 inches, and the Ruston soils have none.

Profile of Ora fine sandy loam in a forest of mixed hardwoods, on a slope of 3 percent, in the northeastern part of the county (NW¼SE¼ sec. 14, T. 3 N., R. 9 E.):

O1—1 inch to 0, oak leaves.
A1—0 to 4 inches, very dark brown (10YR 2/2) to very dark grayish-brown (10YR 3/2) fine sandy loam; weak, fine, granular structure; very friable; many fine and coarse roots; strongly acid; (pH 5.5); clear, wavy boundary.
A2—4 to 9 inches, dark grayish-brown (10YR 4/2) loam; weak, fine, granular structure; very friable; many fine roots; strongly acid (pH 5.5); abrupt, smooth boundary.
B1—9 to 13 inches, strong-brown (7.5YR 5/6) heavy loam; weak, fine, subangular blocky structure; friable; common fine roots; strongly acid (pH 5.0); clear, wavy boundary.
B2t—13 to 24 inches, yellowish-red (5YB 4/6) clay loam to sandy clay loam; moderate, fine and medium, subangular blocky structure; firm to friable; common fine roots; thin clay films on ped faces; strongly acid (pH 5.0); abrupt, smooth boundary.
Bx1—24 to 35 inches, mottled strong-brown (7.5YR 5/6), very pale brown (10YR 7/3), and brownish-yellow (10YR 6/6) light clay loam; mottles are common, medium, and distinct; moderate, medium, subangular blocky structure; firm, compact, and brittle; thin clay films on ped faces; few, fine, soft iron and manganese concretions; strongly acid (pH 5.0); abrupt, smooth boundary.
Bx2—35 to 52 inches, yellowish-red (5YR 5/6) sandy loam; many, coarse, distinct mottles of brownish yellow (10YR 6/6); weak, medium and coarse, subangular blocky structure; slightly compact and brittle in place; clay bridging on sand particles; very strongly acid (pH 4.5).

The A1 horizon is dark brown to very dark grayish brown in color and sandy loam, loam, or silt loam in texture. The B2 horizon ranges from strong brown to yellowish red. Depth to the fragipan ranges from 22 to 28 inches, and the pan is 6 inches to more than 2 feet thick. The fragipan is a loam, sandy clay loam, or light clay loam. The Bx2 horizon is sandy loam or clay loam in some places.

Ora fine sandy loam, 0 to 2 percent slopes (OfA).—This is a well-drained soil that has a fragipan.

The surface layer is very dark brown to very dark grayish-brown fine sandy loam 8 to 12 inches thick. The subsoil, to a depth of 22 to 28 inches, is yellowish-red sandy clay loam or clay loam. It is underlain by a weak fragipan mottled with brown, red, and yellow. Under this is yellowish-red sandy loam to clay loam.

Mapped with this soil, and making up 5 to 10 percent of its area, are Savannah and Ruston soils. Savannah soils have a fragipan and are yellowish brown in color. Ruston soils lack a fragipan. Also included in mapping were small areas that have a loam or silt loam surface layer.

This soil is strongly acid and low to medium in natural fertility. It responds well to lime and fertilizer. Runoff is slow to moderate, and the available water capacity is moderate. Water and roots penetrate down to the fragipan. The soil is in good tilth and can be worked throughout a wide range of moisture content.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, and longleaf pines. Small areas have been cleared for crops. The hazard of erosion is slight. Capability unit IIw–5; woodland suitability group 4; woodland range site 1.

Ora fine sandy loam, 2 to 5 percent slopes (OfB).—This is a well-drained soil that has a fragipan.

The surface layer is very dark brown to very dark grayish-brown fine sandy loam 8 to 19 inches thick. The

subsoil, to a depth of 24 inches, is yellowish-red sandy clay loam or clay loam. It is underlain by a weakly defined loam fragipan that is mottled with brown, red, and yellow and reaches to a depth of 35 inches. Under this is yellowish-red loam to clay loam.

Mapped with this soil, and making up 5 to 12 percent of its area, are Savannah and Ruston soils. Savannah soils have a fragipan and are more brown than Ruston soils, which lack a fragipan. Also including in mapping were small areas that have a loam or silt loam surface layer.

This soil is strongly acid and low to medium in natural fertility. It responds well to lime and fertilizer. Runoff is moderate, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan. The soil is in good tilth and can be worked throughout a wide range of moisture content.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, and longleaf pines. Small areas have been cleared for row crops. The hazard of erosion is moderate when this soil is cultivated. Capability unit IIe–1; woodland suitability group 4; woodland range site 1.

Ora fine sandy loam, 2 to 5 percent slopes, eroded (OfB2).—This is a well-drained soil that has a fragipan.

The surface layer is dark grayish-brown, friable fine sandy loam to loam 4 to 6 inches thick. The subsoil, to a depth of 22 to 28 inches, is yellowish-red sandy clay loam to clay loam. It is underlain by a weakly defined loam fragipan that is mottled with red, yellow, and brown and extends to a depth of 35 inches. Under this is yellowish-red sandy loam to clay loam. The subsoil is exposed in a few eroded places. Rills and a few shallow gullies occur in some areas.

Mapped with this soil, and making up 5 to 10 percent of its area, are Savannah and Ruston soils. Savannah soils are yellowish brown and have a fragipan; the Ruston soils lack a fragipan. Also included in mapping were small areas that have a loam or silt loam surface layer.

This soil is strongly acid and low to medium in natural fertility. It responds well to lime and fertilizer. Runoff is moderate, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan. The soil is in good tilth and can be worked throughout a wide range of moisture content.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, and longleaf pines. Small areas have been cleared for row crops. The hazard of erosion is moderate when this soil is cultivated. Capability unit IIe–1; woodland suitability group 4; woodland range site 1.

Ora fine sandy loam, 2 to 5 percent slopes, severely eroded (OfB3).—This is a well-drained soil that has a fragipan.

The surface layer is strong-brown to yellowish-red fine sandy loam to sandy loam. It consists of a mixture of the original dark grayish-brown surface soil and materials from the subsoil. The subsoil, to a depth of 20 inches, is yellowish-red sandy clay loam. It is underlain by a weakly defined loam fragipan that is mottled with yellowish red, yellow, and brown and extends to a depth of 24 inches. Under this is yellowish-red sandy loam to clay loam. The subsoil is exposed in some areas, but in most is interspersed with or mixed with remnants of the original surface soil. Rills and shallow gullies occur in some areas, and in a few places the gullies are deep.

Mapped with this soil, and making up 5 to 10 percent of its area, are Savannah and Ruston soils. Savannah soils are yellowish brown and have a fragipan; the Ruston soils lack a fragipan.

This soil is strongly acid and low to medium in natural fertility. Runoff is moderate to rapid, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan. The soil is in fair tilth and can be worked throughout a fairly wide range of moisture content.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, and longleaf pines. The hazard of erosion is severe when this soil is cultivated. Capability unit IIIe–2; woodland suitability group 4; woodland range site 1.

Ora fine sandy loam, 5 to 8 percent slopes, eroded (OfC2).—This is a well-drained soil that has a fragipan.

The surface layer is dark grayish-brown to brown friable fine sandy loam 4 to 6 inches thick. The subsoil, to a depth of 22 to 28 inches, is yellowish-red sandy clay loam to clay loam. It is underlain by a weakly defined loam fragipan that is mottled with red, yellow, and brown and extends to a depth of 35 to 40 inches. Under this is yellowish-red sandy loam. The subsoil is exposed in a few eroded areas. In a few uneroded areas, the surface soil is very dark brown fine sandy loam 8 to 10 inches thick. Rills and a few shallow gullies occur in some areas.

Mapped with this soil, and making up 5 to 12 percent of its area, are Savannah and Ruston soils. Savannah soils are yellowish brown and have a fragipan; Ruston soils lack a fragipan and are well drained.

This soil is strongly acid and low to medium in natural fertility. It responds well to lime and fertilizer. Runoff is moderate to high, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan. This soil is in good tilth and can be worked throughout a wide range of moisture content.

Most of this soil has been cleared and used for pasture and row crops. It is well suited to loblolly, shortleaf, and longleaf pines. Small areas have been planted to loblolly and slash pines. The hazard of erosion is moderate to severe when this soil is cultivated. Capability unit IIIe–3; woodland suitability group 4; woodland range site 1.

Ora fine sandy loam, 5 to 8 percent slopes, severely eroded (OfC3).—This is a well-drained soil that has a fragipan.

The surface layer is strong-brown to yellowish-red fine sandy loam to sandy loam. It consists of a mixture of the original dark grayish-brown surface soil and materials from the subsoil. The subsoil, to a depth of 20 to 24 inches, is a yellowish-red, brown, and yellow loam fragipan. It is underlain by yellowish-red sandy loam to clay loam. The subsoil is exposed in some areas, but in most it is mixed with the former surface soil. Rills and shallow gullies occur in some areas, and in a few places the gullies are deep.

Mapped with this soil, and making up 5 to 10 percent of its area, are Savannah and Ruston soils. Savannah soils

are yellowish brown and have a fragipan; Ruston soils lack a fragipan.

This soil is strongly acid and low to medium in natural fertility. Runoff is rapid, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan, but growth in the hardpan is retarded. This soil is in fair tilth and can be worked throughout a fair range of moisture content. It tends to clod and pack where the surface layer consists only of subsoil.

Most of this soil is now used for trees and pasture, though it was once cultivated. It is well suited to loblolly, shortleaf, and longleaf pines. The hazard of erosion is severe when the soil is cultivated. Capability unit IVe–1; woodland suitability group 4; woodland range site 1.

Ora-Ruston complex, 5 to 8 percent slopes, eroded (OrC2).—This mapping unit consists of well-drained Ora and Ruston soils that are so intermixed it is not practical to show them separately on a map of the scale used. The areas of this mapping unit occur throughout the county. Slopes range from 5 to 8 percent. The areas of this mapping unit are not larger than those of other mapping units nearby.

Ora soils make up 60 percent of this mapping unit; Ruston soils 30 percent; and Providence, Savannah, Saffell, and Iuka soils the remaining 10 percent. The Ora soil has a very dark grayish-brown sandy loam surface layer 4 to 10 inches thick. The subsoil is yellowish-red sandy clay loam to clay loam. It is underlain, at a depth of 24 to 28 inches, by a mottled strong-brown, yellow, and very pale brown clay loam to loam weak fragipan, which is 1 to 2 feet thick. Under the fragipan is yellowish-red sandy loam.

The Ora soil is strongly acid, low in content of organic matter, and low to medium in fertility. The available water capacity is moderate. Water and roots easily penetrate down to the fragipan.

The Ruston soil has a brown to dark grayish-brown sandy loam, loam, or silt loam surface layer 8 to 12 inches thick. This is underlain by a yellowish-red sandy clay loam or clay loam subsoil. Under the subsoil is yellowish-red sandy loam.

The Ruston soil is strongly acid, low in content of organic matter, and low to medium in fertility. The available water capacity, infiltration, and permeability are moderate. Water and roots easily penetrate the soil.

The soils in this mapping unit are in trees, row crops, and pasture. The hazard of erosion is moderate when these soils are cultivated. Capability unit IIIe–3; woodland suitability group 4; woodland range site 1.

Ora-Ruston complex, 5 to 8 percent slopes, severely eroded (OrC3).—This mapping unit is similar to Ora-Ruston complex, 5 to 8 percent slopes, eroded, except that it is severely eroded. In this mapping unit are well-drained loamy Ora and Ruston soils that are so intermixed it is not practical to show them separately on a map of the scale used. The areas of this mapping unit occur throughout the county. Slopes range from 5 to 8 percent. In this complex, the subsoil is exposed over most of the area or is interspersed with material from the original surface soil. Rills and shallow gullies occur in some areas, and in a few places the gullies are deep.

Ora soils make up 60 percent of this mapping unit; Ruston soils 30 percent; and Providence, Savannah, Saffell, and Iuka soils the remaining 10 percent. The Ora soil has a strong-brown sandy loam to loam surface layer 4 to 6 inches thick. It is underlain by yellowish-red sandy clay loam or clay loam. The depth to the fragipan is 20 to 24 inches. Under the fragipan is a yellowish-red sandy loam.

The Ora soil is strongly acid, low in content of organic matter, and low to medium in fertility. Water and roots easily penetrate down to the fragipan. The available water capacity is moderate.

The Ruston soil has a brown to strong-brown sandy loam surface layer 4 to 8 inches thick. It consists of a mixture of the original surface soil and material from the subsoil. The subsoil is yellowish-red clay loam to sandy clay loam. It is underlain by yellowish-red sandy loam. In some places small amounts of gravel are in the profile.

The Ruston soil is strongly acid, low in content of organic matter, and low to medium in fertility. Runoff is rapid, and the available water capacity is low to moderate.

This soil complex is now in trees (fig. 5) and pasture, though it was once cleared for crops and, in consequence, severely eroded. It is well suited to trees and pasture. The hazard of erosion is severe when the soils of this complex are cultivated. Capability unit IVe–1; woodland suitability group 4; woodland range site 1.

Paden Series

The Paden series consists of dark grayish-brown to brownish-yellow, moderately well drained soils that occur on broad level ridges and on flats in the southeastern part of the county. These soils formed in a thin mantle

Figure 5.—Six-year-old slash pine plantation on Ora-Ruston complex.

of silt and loamy material. Slopes range from 0 to 2 percent.

Paden soils occur with Ora, Savannah, and Frost soils. The Paden soils, like the Ora and Savannah, have a fragipan. Frost soils do not have a fragipan. Paden soils are yellowish brown, as are the Savannah soils. Ora soils are yellowish red, and Frost soils are dark grayish brown to gray. Paden soils have a yellowish-brown B horizon that contains a gray silt layer at a depth of 18 to 21 inches.

Profile of Paden silt loam on a 1 percent slope in a pasture (SW¼NW¼ sec. 13, T. 2 N., R. 8 E.):

A1—0 to 3 inches, dark grayish-brown (10YR 4/2) to very dark grayish-brown (10YR 3/2) silt loam with a high content of sand; weak, fine, granular structure; friable; many fine grass roots; strongly acid (pH 5.5); clear, wavy boundary.

A2—3 to 8 inches, brownish-yellow (10YR 6/8), mixed with dark grayish-brown (10YR 4/2), silt loam that has a high content of sand; weak, fine, subangular blocky and granular structure; friable; many fine grass roots; strongly acid (pH 5.5); abrupt, smooth boundary.

B2—8 to 18 inches, yellowish-brown (10YR 5/6 to 10YR 5/8) silt loam to heavy loam; weak, fine and medium, subangular blocky structure; friable; common fine roots; strongly acid (pH 5.5); abrupt, smooth boundary.

Bx&A'x—18 to 21 inches, yellowish-brown (10YR 5/8) silt loam to heavy loam; common, fine, distinct mottles of light yellowish brown (10YR 6/4) and light gray (10YR 7/2); moderate, fine and medium, subangular blocky structure; firm, brittle, compact; clay films on ped faces; horizon contains 20 to 30 percent of A'x that is light yellowish brown (10YR 6/4) to light gray (10YR 7/2); this is discontinuous and occurs in scattered layers along the walls of the pit; strongly acid (pH 5.0); gradual, wavy boundary.

B'x1—21 to 36 inches, mottled yellowish-brown (10YR 5/6), strong-brown (7.5YR 5/6), and light-gray (10YR 7/2) heavy loam; moderate, medium, subangular blocky structure; firm, compact, brittle; clay skins on ped faces; gray silt and sandy polygonal cracks; few brown and black concretions; strongly acid (pH 5.0); gradual, wavy boundary.

B'x2—36 to 54 inches, mottled strong-brown (7.5YR 5/6), yellowish-brown (10YR 5/6), yellowish-red (5YR 5/6), and light-gray (10YR 7/2) clay loam; moderate, fine and medium, subangular blocky structure; firm, compact, brittle; clay skins on ped faces and clay bridging on sand grains; gray polygonal cracks filled with silt and sand; strongly acid (pH 5.0).

The horizons in this profile range from silt loam with a high content of sand to loam or light clay loam. The fragipan is at a depth of 16 to 20 inches. It is underlain by a thin, discontinuous A'x horizon at a depth of 18 to 24 inches. The lower B'x1 or B'x2 horizon ranges from a mottled strong brown to yellowish brown, yellowish red, or gray.

Paden silt loam, 0 to 2 percent slopes (PaA).—This is a moderately well drained soil that has a fragipan and is located on uplands.

The surface layer of this soil is a very dark grayish-brown silt loam 5 to 9 inches thick. The subsoil, to a depth of 16 to 20 inches, is a yellowish-brown silt loam to loam. It is underlain by a mottled yellow, brown, and gray fragipan. Under this fragipan is a mottled red, yellow, brown, and gray clay loam to loam.

Mapped with this soil, and making up 3 to 7 percent of its area, are Ora and Savannah soils, both of which have a fragipan. Ora soils are red, but Savannah soils are yellowish brown.

This soil is strongly acid and low to medium in natural fertility. Runoff is slow, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan. Tilth is good, and this soil can be worked throughout a fairly wide range of moisture content.

Most of this soil is used for mixed hardwoods and loblolly and longleaf pines. Smaller areas have been cleared for pasture and crops. In some places this soil needs drainage. The hazard of erosion is generally slight when this soil is cultivated. Capability unit IIw–5; woodland suitability group 4; woodland range site 1.

Prentiss Series

The Prentiss series consists of brown to dark grayish-brown, moderately well drained soils that have a fragipan. These soils occur on broad flats along the major streams in the county. They formed in a mixture of silty and sandy material. Slopes range from 2 to 5 percent.

Prentiss soils are mapped as a complex with Stough soils. Prentiss soils are brown and moderately well drained, but Stough soils are dark gray to brown and somewhat poorly drained. Prentiss and Stough soils both have a fragipan, but the Prentiss fragipan occurs at a depth of 20 to 28 inches, and the Stough fragipan at a depth of 14 to 18 inches. Prentiss soils do not have gray mottling at a depth of 10 inches or less from the surface as the Stough soils have.

Profile of Prentiss silt loam in a pasture, east of McComb, Miss., across Bogue Chitto River; turn south on first blacktopped road, go 2 miles, on east side (NE¼SW¼ sec. 31, T. 4 N., R. 9 E.):

Ap—0 to 6 inches, brown (10YR 4/3) silt loam with a high content of sand; weak, fine, granular structure; very friable; many fine roots; strongly acid (pH 5.5); abrupt, smooth boundary.

B21—6 to 14 inches, yellowish-brown (10YR 5/8) silt loam with a high content of sand; weak, fine, subangular blocky structure; friable; few fine roots; few soft iron and manganese concretions; strongly acid (pH 5.5); clear, wavy boundary.

B22t—14 to 26 inches, yellowish-brown (10YR 5/8) silt loam with a high content of sand (29 percent); few, fine, faint mottles of light yellowish brown (10YR 6/4); weak, fine, subangular blocky structure; clay bridging; few, fine, soft iron and manganese concretions; strongly acid (pH 5.0); clear, wavy boundary.

Bx1—26 to 30 inches, pale-brown (10YR 6/3) coarse loam; common, medium, distinct mottles of yellowish brown (10YR 5/8); weak, medium, subangular blocky structure; firm, hard, compact, brittle; few soft iron and manganese concretions; strongly acid (pH 5.0); clear, wavy boundary.

Bx2—30 to 48 inches, mottled pale-brown (10YR 6/3), gray (10YR 6/1), and strong-brown (7.5YR 5/8) coarse loam; mottles are many, common, and distinct; weak, fine and medium, subangular blocky structure; firm, hard, compact, brittle; clay bridging; few, fine, soft iron and manganese concretions; very strongly acid (pH 4.5).

The A1 horizon in areas not cultivated ranges from dark grayish brown to brown in color; the Ap horizon ranges from brown to light brownish gray. The B2 horizon ranges from yellowish brown to strong brown. The fragipan is at a depth of 20 to 28 inches.

Providence Series

The Providence series consists of dark grayish-brown to brown, moderately well drained soils that have a fragipan. These soils are located in the northwestern part of the county. They formed in a thin mantle of silty material deposited over sandy clay loam and clay loam material. Slopes range from 0 to 8 percent.

Providence soils occur with Brookhaven and Ora soils. Providence and Brookhaven soils are moderately well drained and have a fragipan. Ora soils are well drained. In the upper part, Providence and Brookhaven soils are silty but the Ora soils are loamy.

Profile of Providence silt loam in an idle field on a 4 percent slope in the northwestern part of Pike County (NW¼NE¼ sec. 5, T. 4 N., R. 7 E.):

Ap—0 to 5 inches, brown (10YR 5/3) silt loam; weak, fine, crumb structure; friable; many fine roots; strongly acid (pH 5.5); abrupt, smooth boundary.

B21t—5 to 15 inches, strong-brown (7.5YR 5/6) to yellowish-red (5YR 4/6) silty clay loam; moderate, fine and medium, subangular blocky structure; friable; many fine roots; clay films on ped faces; strongly acid (pH 5.5); clear, wavy boundary.

B22t—15 to 23 inches, strong-brown (7.5YR 5/6) silty clay loam; moderate, fine and medium, subangular blocky structure; friable; few roots; clay films on ped faces; strongly acid (pH 5.0); clear, wavy boundary.

IIBx1&A'2x—23 to 31 inches, strong-brown (7.5YR 5/6) silt loam with high content of sand; common, medium, distinct mottles of pale brown (10YR 6/3), light brownish gray (10YR 6/2), and yellow (10YR 7/6); moderate, fine and medium, subangular blocky structure; firm, slightly sticky, hard, brittle; clay films on ped faces; light brownish-gray (10YR 6/2) silt (A'2x) along ped faces and cracks; voids; strongly acid (pH 5.0); clear, wavy boundary.

IIBx2—31 to 54 inches, mottled yellowish-red (5YR 4/6), strong-brown (7.5YR 5/6), and light-gray (10YR 7/2) clay loam; mottles are common, medium to fine, distinct; moderate, fine and medium, subangular blocky structure; firm, hard, slightly sticky; clay films on ped faces; light-gray (10YR 7/2) silt coatings in cracks and on ped faces; polygonal cracks with high concentration of iron along edges; strongly acid (pH 5.0).

The A horizon ranges from dark grayish brown to brown in color. The B2 horizon ranges from strong brown to yellowish red in color. It is underlain by clay loam to sandy clay loam. The mottled fragipan is at a depth of 20 to 24 inches. A gravelly fragipan occurs in some areas mapped as Providence soils.

Providence silt loam, 2 to 5 percent slopes, eroded (PrB2).—This is a moderately well drained soil that has a fragipan and is located on uplands.

The surface layer of this soil is a brown silt loam 4 to 6 inches thick. In some uneroded fields, however, the surface layer is a dark grayish-brown silt loam 6 to 9 inches thick. The subsoil is strong-brown to yellowish-red silty clay loam. It is underlain by a mottled brown, yellow, and gray fragipan, which occurs at a depth of 20 to 24 inches. Under this fragipan is yellowish-red, brown, and yellow clay loam or sandy clay loam. In a few eroded places the subsoil is exposed. In some areas rills and a few shallow gullies are common.

Mapped with this soil, and making up 5 to 10 percent of its area, are Ora and Brookhaven soils, both of which have a fragipan. Ora soils are red and loamy; Brookhaven soils are dark grayish brown and silty.

This Providence soil is strongly acid and medium in natural fertility. Runoff is moderate, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan. Tilth is good, and the soil can be worked throughout a wide range of moisture content. It tends to crust and pack if left bare.

Most of this soil is used for pasture and row crops. Small areas are in loblolly and slash pines. The soil is well suited to loblolly, shortleaf, and longleaf pines. The hazard of erosion is moderate when this soil is cultivated. Capability unit IIe–2; woodland suitability group 14; woodland range site 4.

Providence silt loam, 5 to 8 percent slopes, eroded (PrC2).—This is a moderately well drained soil that has a fragipan and is located on uplands.

The surface layer of this soil is a grayish-brown silt loam 4 to 6 inches thick. In uneroded fields, however, the surface layer is dark grayish-brown silt loam 6 to 9 inches thick. The subsoil, to a depth of 20 to 24 inches, is a strong-brown silty clay loam. It is underlain by a mottled brown, yellow, and gray fragipan. Under this fragipan is red, brown, yellow, and gray clay loam to sandy clay loam. In a few eroded spots the subsoil is exposed. In some areas rills and a few shallow gullies are common.

Mapped with this soil, and making up 5 to 10 percent of its area, are Ora and Ruston soils. The Ora soil is more red and more sandy than this soil, and the Ruston is more red and sandy and is well drained instead of moderately well drained. The Ora and Ruston soils both contain a fragipan.

This soil is strongly acid and medium in natural fertility. Runoff is moderate, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan.

Tilth is good, and this soil can be worked throughout a wide range of moisture content. It tends to crust and pack if left bare.

Most of this soil is used for pasture and row crops. Small areas are in loblolly and slash pines. The soil is well suited to loblolly, shortleaf, and longleaf pines. The hazard of erosion is moderate when this soil is cultivated. Capability unit IIIe–4; woodland suitability group 14; woodland range site 4.

Providence silt loam, 5 to 8 percent slopes, severely eroded (PrC3).—This is a moderately well drained soil that has a fragipan and is located on uplands.

The surface layer of this soil is brown silt loam. It consists of a mixture of remnants of the original surface soil and material of the subsoil. The subsoil, to a depth of 20 to 24 inches, is strong-brown silty clay loam. It is underlain by a silt loam that has a mottled brown, yellow, and gray fragipan. Under this fragipan is sandy clay loam or clay loam. The strong-brown subsoil is exposed in most areas, but in a few is interspersed with patches of the original dark grayish-brown surface soil. Some areas have many rills and shallow gullies, and there are a few deep gullies.

Mapped with this soil, and making up 5 percent of its area, are Ora and Ruston soils. The Ora soil is more red and more sandy than this soil, and the Ruston is more red, is more sandy, and is well drained instead of moderately well drained. The Ora soil contains a fragipan.

This soil is strongly acid and medium in natural fertility. Runoff is rapid, and the available water capacity is moderate. Water and roots easily penetrate down to the fragipan. Tilth is fair, and this soil can be worked throughout a fair range of moisture content. It tends to clod, crust, and pack if left bare.

Most of this soil is used for trees and pasture, though it was once cultivated. It is well suited to loblolly, shortleaf, and longleaf pines. The hazard of erosion is severe when this soil is cultivated. Capability unit IVe–2; woodland suitability group 14; woodland range site 4.

Rumford Series

The Rumford series consists of brown to dark-gray, well-drained, permeable soils that occur on level to gently sloping flats along the Bogue Chitto River. These soils formed in sandy loam materials. Slopes range from 0 to 5 percent.

Rumford soils occur with Prentiss and Stough soils. Rumford soils are red and lack a fragipan; Prentiss and Stough soils, in contrast, are yellowish brown and have a fragipan. Rumford soils are well drained, Prentiss soils are moderately well drained, and Stough soils are somewhat poorly drained.

Profile of Rumford sandy loam in a cornfield on a 1 percent slope, located 1 mile north of Holmesville, Miss., on gravel road (SE¼NW¼ sec. 20, T. 3 N., R. 9 E.):

Ap—0 to 6 inches, brown (10YR 4/3) sandy loam; weak, fine, granular structure; very friable; many fine roots; strongly acid (pH 5.5); clear, wavy boundary.

A&B—6 to 9 inches, dark-brown (7.5YR 3/2) sandy loam material of surface layer mixed with strong-brown (7.5YR 5/6) material of subsoil; weak, fine, granular structure; very friable; common fine roots; strongly acid (pH 5.5); abrupt, smooth boundary.

B1—9 to 16 inches, yellowish-red (5YR 4/6) sandy loam; weak, fine, subangular blocky structure; very friable; few fine roots; strongly acid (pH 5.0); clear, wavy boundary.

B2t—16 to 32 inches, yellowish-red (5YR 4/6) sandy loam; weak, fine, subangular blocky structure; friable; clay bridging between sand particles; strongly acid (pH 5.0); clear, wavy boundary.

C1—32 to 54 inches, strong-brown (7.5YR 5/6) to reddish-brown (5YR 5/4) loamy sand to sandy loam; structureless or peds weakly formed; few quartz pebbles; strongly acid (pH 5.0).

The A horizon in areas not cultivated ranges from dark grayish brown to dark brown in color; the Ap horizon ranges from grayish brown to brown. The surface layer is mostly a sandy loam, but in some places is a loamy sand. The B2t horizon ranges from yellowish red to strong brown in color; it is mostly a sandy loam but is light sandy clay loam in places. Some small quartz pebbles are in the B horizon.

Rumford sandy loam, 0 to 3 percent slopes (RmA).—This is a well-drained, acid soil on stream terraces.

The surface layer of this soil is brown to dark grayish-brown sandy loam. The subsoil is a yellowish-red sandy loam. It is underlain, at a depth of 28 to 34 inches, by yellowish-brown loamy sand to sandy loam.

Mapped with this soil, and making up 5 to 10 percent of its area, are Prentiss and Stough soils, which are yellowish brown and have a fragipan. Also included are small areas that have a gravelly sandy loam surface layer.

This soil is strongly acid and low in natural fertility. Runoff is slow, and the available water capacity is moderate. Water and roots easily penetrate the subsoil. Tilth is good, and this soil can be worked throughout a wide range of moisture content. Some small areas that have a loamy sand surface layer are droughty.

Most of this soil is used for crops and pasture. Smaller areas are in trees. This soil is well suited to loblolly, shortleaf, and longleaf pines. When the soil is cultivated, the hazard of erosion is slight. Capability unit IIs–1; woodland suitability group 1; woodland range site 1.

Ruston Series

The Ruston series consists of well-drained, permeable soils on narrow ridges throughout the county. These soils formed in sandy loam and sandy clay loam materials. Slopes range from 2 to 17 percent. The surface layer is dark grayish brown to dark gray, and the subsoil is yellowish red.

Ruston soils occur with Ora, Cahaba, and Saffell soils, all of which are of the same color as the Ruston. Ruston soils, however, lack the fragipan that is present in the Ora soils, and lack the gravel typical of the Saffell soils. Ruston soils have a thicker, more clearly defined B horizon than the Cahaba soils. The B2 horizon in the Ruston soils is 24 to 40 inches thick, as compared to 10 to 15 inches for the corresponding layer in the Cahaba soils.

Profile of Ruston fine sandy loam, on a slope of 5 percent, in a mixed stand of hardwoods and loblolly pine southwest of Holmesville, Miss. (SW¼NE¼ sec. 28, T. 3 N., R. 9 E.):

O1—1 inch to 0, pine needles and oak leaves.

A1—0 to 4 inches, dark grayish-brown (10YR 4/2) to dark-gray (10YR 4/1) fine sandy loam; weak, fine, granular structure; very friable; many fine roots; strongly acid (pH 5.0); abrupt, smooth boundary.

A2—4 to 10 inches, brown (10YR 5/3) sandy loam; weak, fine, granular structure; very friable; many fine roots; strongly acid (pH 5.0); abrupt, smooth boundary.

B1—10 to 14 inches, strong-brown (7.5YR 5/6) sandy loam; weak, fine, granular structure to weak, fine, subangular blocky structure; friable; many roots; strongly acid (pH 5.0); clear, wavy boundary.

B21t—14 to 38 inches, yellowish-red (5YR 5/6) sandy clay loam; weak to moderate, fine and medium, subangular blocky structure; friable; common roots; patchy clay films on ped faces and clay bridging on sand grains; lower 2 inches of this horizon has a few reddish-yellow (7.5YR 6/8) mottles; strongly acid (pH 5.0); gradual, wavy boundary.

B22t—38 to 54 inches, yellowish-red (5YR 5/6) heavy sandy loam; few, medium, distinct mottles of pale brown (10YR 6/3); weak, fine and medium, subangular blocky structure; friable; sand grains coated with clay, and clay bridging on sand grains; strongly acid (pH 5.0).

The A1 horizon ranges from very dark gray to dark gray in color, and from fine sandy loam to sandy loam or loam in texture. The B2t horizon ranges from sandy clay loam to clay loam, and in some places displays coarse, distinct, reddish-yellow (7.5YR 6/8) mottles at a depth of 30 to 37 inches. Small amounts of quartz gravel are present in the B2t horizon.

Ruston fine sandy loam, 2 to 5 percent slopes, eroded (RuB2).—The surface layer of this soil is dark-brown fine sandy loam 6 to 8 inches thick. The subsoil is a yellow-

ish-red to red sandy clay loam. It is underlain by yellowish-red sandy loam.

Mapped with this soil, and making up 5 to 10 percent of its area, are Ora and Saffell soils, both of which are yellowish red. Ora soils contain a fragipan, and Saffell soils are gravelly. Also included in mapping were small areas that have a gravelly sandy loam surface layer.

This soil is strongly acid and low to medium in natural fertility. It responds well to lime and fertilizer. Runoff is moderate to slow, and available water capacity is moderate. Water and roots easily penetrate this soil. Tilth is good, and the soil can be worked throughout a wide range of moisture content.

Most of this soil is used for trees and pasture. It is well suited to loblolly, slash, and shortleaf pines, and mixed hardwoods. Small areas have been cleared for row crops. The hazard of erosion is moderate when the soil is cultivated. Capability unit IIe–3; woodland suitability group 1; woodland range site 1.

Ruston fine sandy loam, 8 to 12 percent slopes, eroded (RuD2).—The surface layer of this soil is brown to grayish-brown fine sandy loam to loam 4 to 6 inches thick. About one-third of the acreage of this soil has a surface layer that is dark grayish-brown fine sandy loam 8 to 14 inches thick. The subsoil, to a depth of 32 to 38 inches, is a yellowish-red sandy clay loam. It is underlain by a yellowish-red sandy clay loam. The subsoil is exposed in a few small eroded areas. Rills and a few shallow gullies occur in some places.

Mapped with this soil, and making up 10 percent of its area, are Ora and Saffell soils. Ora soils contain a fragipan, and Saffell soils are sandy loam and gravelly. Also included in mapping were small areas that have a gravelly sandy loam surface layer.

This soil is strongly acid and low to medium in natural fertility. It responds fairly well to lime and fertilizer. Runoff is moderate to rapid, and the available water capacity is moderate. Water and roots easily penetrate this soil. Tilth is good, and the soil can be worked throughout a wide range of moisture content.

Most of this soil is used for trees and pasture. It is well suited to loblolly, slash, shortleaf, and longleaf pines. Small areas have been cleared for row crops. The hazard of erosion is severe when this soil is cultivated. Capability unit IVe–3; woodland suitability group 1; woodland range site 1.

Ruston fine sandy loam, 8 to 12 percent slopes, severely eroded (RuD3).—The surface layer of this soil is yellowish-brown to yellowish-red fine sandy loam 4 to 6 inches thick. It consists of a mixture of remnants of the surface soil and of material formerly in the subsoil. The subsoil, to a depth of 30 to 40 inches, is yellowish-red sandy clay loam. It is underlain by a yellowish-red sandy loam. In a few places the original grayish-brown surface soil remains. Rills and shallow gullies occur in some areas, and in a few places the gullies are deep.

Mapped with this soil, and making up about 12 percent of its area, are Ora and Saffell soils. Ora soils contain a fragipan, and Saffell soils are sandy loam and gravelly.

This soil is strongly acid and low to medium in natural fertility. When used for pasture, this soil responds fairly well to lime and fertilizer. Runoff is rapid, and the available water capacity is moderate. Water and roots easily penetrate this soil. Tilth is fair, and the soil tends to clod, crust, and pack where the subsoil is exposed.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, and longleaf pines. The hazard of erosion is severe when the soil is cultivated. Capability unit VIe–1; woodland suitability group 2; woodland range site 2.

Ruston fine sandy loam, 12 to 17 percent slopes, eroded (RuE2).—The surface layer of this soil is dark-brown to dark grayish-brown fine sandy loam 6 to 14 inches thick. The subsoil is strong-brown to yellowish-red sandy clay loam. It is underlain by a yellowish-red gravelly sandy loam. The subsoil is exposed in a few areas.

Mapped with this soil, and making up about 10 percent of its area, are Saffell and Cahaba soils, both of which are yellowish red. The Saffell soils are gravelly.

This soil is strongly acid and low to medium in natural fertility. It responds well to lime and fertilizer. Runoff is moderate to rapid, and the available water capacity is moderate. Water and roots easily penetrate this soil.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, longleaf, and slash pines and mixed hardwoods. Small areas have been cleared for row crops. The hazard of erosion is severe when this soil is cultivated. Capability unit VIe–1; woodland suitability group 1; woodland range site 2.

Ruston fine sandy loam, 12 to 17 percent slopes, severely eroded (RuE3).—The surface layer of this soil is yellowish-red fine sandy loam 4 to 6 inches thick. It consists of a mixture of remnants of the surface soil and of material formerly in the subsoil. The subsoil, to a depth of 30 to 40 inches, is strong-brown to yellowish-red sandy clay loam. It is underlain by a yellowish-red to red sandy loam. Rills and shallow gullies occur in some places, and in a few places the gullies are deep.

Mapped with this soil, and making up about 10 percent of its area, are Saffell soils that are yellowish-red gravelly sandy loam.

This soil is strongly acid and low to medium in natural fertility. Runoff is rapid, and the available water capacity is moderate. Water and roots easily penetrate this soil. Tilth is fair, and the soil tends to clod, crust, and pack when the subsoil is exposed.

Most of this soil is used for trees and pasture. It is well suited to loblolly, shortleaf, and longleaf pines. A large acreage is idle or is reverting to pine forest. The hazard of erosion is severe when this soil is cultivated. Capability unit VIIe–2; woodland suitability group 2; woodland range site 2.

Saffell Series

The Saffell series consists of very dark grayish-brown, well drained to somewhat excessively drained soils that occur on narrow ridgetops and on wide, steep to very steep, sloping sides of the ridges. These soils formed in gravelly fine sandy loam and gravelly sandy clay loam. Slopes on the narrow ridgetops range from 5 to 8 percent, and on the wide, steep to very steep sides the range is from 8 to 35 percent.

The Saffell soils occur with Ruston and Cahaba soils. Saffell soils contain a large amount of gravel throughout

the profile, but Ruston and Cahaba soils are almost free of gravel.

Profile of Saffell gravelly fine sandy loam in a moist pine forest about 2 miles south of Magnolia, Miss. (SW¼SE¼ sec. 27, T. 2 N., R. 7 E.):

O1—1 inch to 0, pine needles.
A1—0 to 4 inches, very dark grayish-brown (10YR 3/2) gravelly fine sandy loam; weak, fine, granular structure; very friable; many fine roots; fine and medium quartz gravel makes up 5 to 10 percent of layer; strongly acid (pH 5.0); clear, wavy boundary.
A2—4 to 8 inches, brown (10YR 5/3) gravelly fine sandy loam; few, fine, faint mottles of light yellowish brown (10YR 6/4); weak, fine, granular structure; friable; many fine roots; fine and medium quartz gravel makes up 5 to 10 percent of layer; strongly acid (pH 5.0); gradual, wavy boundary.
B21t—8 to 19 inches, yellowish-red (5YR 5/6) gravelly sandy clay loam; weak, fine and medium, subangular blocky structure; friable; fine and medium quartz gravel makes up 10 to 20 percent of layer; patchy clay films and clay bridging between sand particles and peds; strongly acid (pH 5.0); gradual, wavy boundary.
B22t—19 to 34 inches, yellowish-red (5YR 4/6) gravelly sandy loam; common, medium, distinct mottles of yellowish brown (10YR 5/6); weak, fine and medium, subangular blocky structure; friable; fine to coarse quartz gravel makes up 20 to 30 percent of layer; clay bridging between sand particles; strongly acid (pH 5.0); gradual, wavy boundary.
C—34 to 60 inches, yellowish-red (5YR 5/6) gravelly sandy loam; structureless; friable; fine to coarse quartz gravel makes up 25 to 35 percent of layer; very strongly acid (pH 4.5).

The A horizon ranges from gravelly fine sandy loam to gravelly loam. The lower B horizon ranges from gravelly sandy clay loam or gravelly heavy sandy loam to gravelly loamy sand. The amount of quartz pebbles in each horizon ranges from 10 to 60 percent.

Saffell gravelly fine sandy loam, 5 to 8 percent slopes (SaC).—This is a well drained to somewhat excessively drained gravelly soil on uplands.

The surface layer of this soil is very dark grayish-brown gravelly fine sandy loam 6 to 10 inches thick. The subsoil, to a depth of 25 to 40 inches, is a yellowish-red gravelly sandy clay loam or gravelly sandy loam. It is underlain by a gravelly sandy loam to gravelly loamy sand.

Mapped with this soil, and making up 5 to 10 percent of its area, are Ruston and Cahaba soils, which are yellowish red and not gravelly.

This soil is strongly acid and low in natural fertility. Runoff is moderate, and the available water capacity is low to moderate. Water and roots easily penetrate. Tilth is good, but gravel in this soil is likely to damage farm implements.

Most of this soil is used for pasture and trees. It is well suited to loblolly and shortleaf pines. Small areas have been cleared for crops. The hazard of erosion is slight to moderate when this soil is cultivated. Capability unit IIIe–5; woodland suitability group 1; woodland range site 1.

Saffell gravelly fine sandy loam, 8 to 17 percent slopes (SaE).—This is a well drained to somewhat excessively drained gravelly soil on uplands.

The surface layer is very dark grayish-brown gravelly fine sandy loam 6 to 8 inches thick. The subsoil, to a depth of 30 to 40 inches, is a yellowish-red gravelly sandy loam or gravelly sandy clay loam. It is underlain by a yellowish-red gravelly sandy loam or gravelly loamy sand.

Mapped with this soil, and making up 10 percent of its area, are Ruston and Cahaba soils, which are yellowish red and not gravelly.

This soil is strongly acid and low in natural fertility. Runoff is moderate to rapid, and the available water capacity is low to moderate. Water and roots easily penetrate. Tilth is good, but gravel in this soil is likely to damage farm implements.

Most of this soil is in trees. It is well suited to loblolly, shortleaf, and longleaf pines. Small areas have been cleared for pasture and crops. The hazard of erosion is severe when this soil is cultivated. Capability unit VIe–2; woodland suitability group 1; woodland range site 2.

Saffell gravelly fine sandy loam, 17 to 35 percent slopes (SaF).—This is a well drained to somewhat excessively drained gravelly soil on uplands.

The surface layer is very dark grayish-brown to very dark brown gravelly fine sandy loam 5 to 11 inches thick. The subsoil, to a depth of 30 to 40 inches, is a yellowish-red gravelly sandy loam to gravelly sandy clay loam. It is underlain by yellowish-red gravelly sandy loam or gravelly loamy sand.

Mapped with this soil, and making up 5 to 10 percent of its area, are Ruston and Cahaba soils, which are yellowish red and not gravelly.

This soil is strongly acid and low in natural fertility. Runoff is rapid, and the available water capacity is low to moderate. Water and roots easily penetrate this soil.

Most of this soil is in trees. It is well suited to loblolly, shortleaf, and longleaf pines. Small areas have been cleared for pasture. The hazard of erosion is severe when this soil is cultivated. Capability unit VIIe–2; woodland suitability group 1; woodland range site 2.

Savannah Series

The Savannah series consists of dark grayish-brown, moderately well drained soils that mostly occur on narrow to broad ridges in the eastern part of the county. These soils formed in silt loam, loam, and sandy loam material. Slopes range from 2 to 8 percent.

Savannah soils occur with Ora, Paden, and Ruston soils. They have a yellowish-brown subsoil, in contrast to the Ora soils, which have a yellowish-red subsoil and a thicker fragipan at a depth of 22 to 28 inches. Savannah soils lack the gray silt layer at a depth of 18 to 21 inches that the Paden soils have. Savannah soils are not so sandy, red, or well drained as the Ruston soils.

Profile of Savannah silt loam in a pasture on a slope of 3 percent west of Progress, Miss., on Progress-Osyka road (SW¼SW¼ sec. 21, T. 1 N., R. 8 E.):

Ap—0 to 6 inches, dark grayish-brown (10YR 4/2) silt loam with a high content of sand; weak, fine, granular structure; friable; many fine roots; strongly acid (pH 5.5); abrupt, smooth boundary.
B1—6 to 10 inches, brownish-yellow (10YR 6/6) loam; few, fine, faint mottles of pale brown (10YR 6/3); weak, fine, subangular blocky structure; friable; many fine roots; worm holes and root holes filled with Ap material; strongly acid (pH 5.5); clear, wavy boundary.

B21—10 to 14 inches, yellowish-brown (10YR 5/6) loam; weak, fine, subangular blocky structure; friable; few roots; few pore spaces; few, fine, soft iron and manganese concretions; strongly acid (pH 5.5); abrupt, smooth boundary.

B22t—14 to 19 inches, yellowish-brown (10YR 5/8) loam; weak, fine and medium, subangular blocky structure; friable; few fine roots; thin, discontinuous clay films on ped faces; few pore spaces; strongly acid (pH 5.5); abrupt, smooth boundary.

Bx1—19 to 44 inches, mottled yellowish-brown (10YR 5/6), strong-brown (7.5YR 5/6), and light brownish-gray (10YR 6/2) loam; mottles are many, medium, and distinct; moderate, fine and medium, subangular blocky structure; some weak, medium, platy structure; firm, hard, brittle; few fine roots; few pore spaces and voids; clay films on ped faces; root channels filled with light brownish-gray (10YR 6/2) loam, and polygonal cracks filled with light brownish-gray (10YR 6/2) loam; strongly acid (pH 5.0); clear, wavy boundary.

Bx2—44 to 69 inches, mottled strong-brown (7.5YR 5/6), yellowish-red (5YR 5/6), and light-gray (10YR 7/1) loam to light clay loam; mottles are many, medium, and distinct; moderate, fine and medium, subangular blocky structure; firm, hard, brittle, slightly sticky; thick, continuous clay films on ped faces; many voids; light-gray (10YR 7/1) wide polygonal cracks; strongly acid (pH 5.0); clear, wavy boundary.

Bx3—69 to 89 inches, yellowish-red (5YR 5/6) sandy clay loam; common, medium, distinct mottles of brownish yellow (10YR 6/6); moderate, medium to coarse, subangular blocky structure; hard, brittle, slightly sticky; clay films on ped faces; strongly acid (pH 5.0).

The A1 horizon ranges from a grayish brown to dark grayish brown in color, and from a silt loam, with high content of sand, to a loam in texture. The B horizon ranges from loam or light clay loam to sandy clay loam. The fragipan begins at a depth of 16 to 20 inches. In the fragipan there is in some places a light brownish-gray (10YR 6/2) silt loam (A'2x) layer.

Savannah silt loam, 2 to 5 percent slopes, eroded (SnB2).—This is a moderately well drained soil that has a fragipan.

The surface layer is very dark grayish-brown to dark grayish-brown silt loam 4 to 9 inches thick. The subsoil, to a depth of 16 to 20 inches, is yellowish-brown loam to clay loam. It is underlain by a mottled brown, yellow, and gray loam fragipan that, lower down, is clay loam in some places. In a few eroded places the subsoil is exposed. Rills and shallow gullies occur in some areas.

Mapped with this soil, and making up 5 to 10 percent of its area, are Ora and Paden soils, both of which have a fragipan. Ora soils are redder than this soil; Paden soils are yellowish brown.

This soil is strongly acid and medium to low in natural fertility. The available water capacity is moderate. Water and roots easily penetrate down to the fragipan. Tilth is fairly good, but this soil tends to clod, crust, and pack where the subsoil is exposed.

Most of this soil is used for pasture and crops. Some small areas are in loblolly and slash pines. The soil is well suited to loblolly and longleaf pines.

The hazard of erosion is moderate when this soil is cultivated. Capability unit IIe–1; woodland suitability group 4; woodland range site 1.

Savannah silt loam, 5 to 8 percent slopes, eroded (SnC2).—This is a moderately well drained soil that has a fragipan.

The surface layer is very dark grayish-brown silt loam to loam 4 to 6 inches thick. The subsoil is yellowish-brown to strong-brown loam to clay loam. It is underlain at a depth of 16 to 20 inches by a mottled brown, red, yellow, and gray loam to clay loam fragipan. In a few eroded areas the subsoil is exposed. Rills and shallow gullies occur in some areas.

Mapped with this soil, and making up 10 percent of its area, are Ora and Ruston soils. Ora soils are red and have a fragipan; Ruston soils are yellowish and do not have a fragipan.

Savannah soil is strongly acid and medium to low in natural fertility. The available water capacity is moderate. Water and roots easily penetrate down to the fragipan. Tilth is fairly good, but the soil tends to clod, crust, and pack where the subsoil is exposed.

Most of this soil is used for pasture and crops. Smaller areas are still in pines and mixed hardwoods. This soil is well suited to loblolly and longleaf pines. The hazard of erosion is moderate when it is cultivated. Capability unit IIIe–3; woodland suitability group 4; woodland range site 1.

Stough Series

The Stough series consists of dark-gray to brown, somewhat poorly drained soils that occur on wide flats along the major streams in the county. These soils formed in silt loam, loam, and fine sandy loam material. Slopes range from 0 to 5 percent.

Stough soils occur with Prentiss and Rumford soils. They have gray mottles 10 inches or less from the surface, and a fragipan at a depth of 14 to 18 inches. The Prentiss soils, in contrast, have gray mottles at a depth of 18 to 20 inches, and a fragipan at a depth of 20 to 28 inches. Stough soils are finer textured and not so well drained as the Rumford soils.

Profile of Stough silt loam in a mixed forest of hardwoods on a slope of 1 percent, east of the Bogue Chitto River (SW¼NW¼ sec. 16, T. 3 N., R. 9 E.):

O1—1 inch to 0, hardwood leaves.

A1—0 to 5 inches, dark-gray (10YR 4/1) silt loam with a high content of sand; weak, fine, granular structure; friable; many fine and medium roots; strongly acid (pH 5.5); abrupt, smooth boundary.

A2—5 to 8 inches, brown (10YR 5/3) silt loam with a high content of sand; weak, fine, granular structure to weak, fine, subangular blocky structure; friable; few, fine, soft iron and manganese concretions; many fine and medium roots; strongly acid (pH 5.5); clear, wavy boundary.

B2t—8 to 15 inches, yellowish-brown (10YR 5/4) to light olive-brown (2.5Y 5/4) loam; few, fine, faint, light brownish-gray (10YR 6/2) mottles; weak, fine, subangular blocky structure; very friable; few fine roots; many, fine, soft iron and manganese concretions; clay bridging on sand grains; few small quartz pebbles; strongly acid (pH 5.0); clear, wavy boundary.

Bx1—15 to 26 inches, light-gray (10YR 7/2) coarse loam; few, medium, distinct mottles of yellowish brown (10YR 5/6); weak, fine, subangular blocky structure; firm, hard, brittle; many, fine and medium, soft iron and manganese concretions; clay bridging on sand grains; few small quartz pebbles; strongly acid (pH 5.0); clear, wavy boundary.

Bx2—26 to 44 inches, light-gray (10YR 7/2) coarse loam; common, medium, distinct mottles of strong brown (7.5YR 5/8); weak, fine and medium, subangular

blocky structure; firm, hard, brittle; many, fine and medium, soft iron and manganese concretions; clay bridging on sand grains; many small quartz pebbles; very strongly acid (pH 4.5).

In areas not cultivated the A1 horizon ranges from a silt loam with a high content of sand to a loam and from dark gray to grayish brown. The B2t horizon ranges from yellowish brown to yellow and has some gray mottles. The B2t horizon has a loam or silt loam texture.

Stough silt loam, 0 to 2 percent slopes (SoA).—This is a somewhat poorly drained soil that has a fragipan and occurs on stream terraces.

The surface layer is dark-gray to grayish-brown silt loam that is 6 to 8 inches thick and has a high content of sand. The subsoil is yellowish-brown loam. A mottled brown, yellow, and gray loam fragipan occurs at a depth of 14 to 18 inches, and under this fragipan is sandy loam.

Mapped with this soil, and making up 5 to 12 percent of its area, are Prentiss and Rumford soils. Prentiss soils are browner than this soil, are loamy, and have a fragipan. Rumford soils are brown, are loamy, and lack a fragipan.

This soil is strongly acid and low in natural fertility. Runoff is moderate to slow, and the available water capacity is moderate to low. Water and roots easily penetrate down to the fragipan. Tilth is fairly good, but this soil can be worked throughout only a fair range of moisture content.

Most of this soil is used for pasture or hardwood trees. It is well suited to hardwoods and to loblolly pine. Some smaller areas have been cleared for crops. Drainage is needed on this soil in some places. The hazard of erosion is generally slight when this soil is cultivated. Capability unit IIIw–2; woodland suitability group 12; woodland range site 1.

Stough-Prentiss complex, 2 to 5 percent slopes (SpB).—This mapping unit consists of somewhat poorly drained to moderately well drained Stough and Prentiss soils that are so intermixed it is not practical to show them separately on a map of the scale used. The areas of this mapping unit are on stream terraces along the Bogue Chitto River. The areas of this mapping unit are not larger than those of other mapping units nearby.

Stough soil makes up 60 percent of this mapping unit; Prentiss soil 35 percent; and Calhoun and Rumford soils the remaining 5 percent. The Stough soil has a dark-gray silt loam surface layer 8 inches thick; a yellowish-brown to yellow loam to silt loam subsoil; a mottled gray, brown, and yellow loam fragipan at a depth of 14 to 18 inches; and gray and brown loam material under the fragipan.

The Stough soil is strongly acid, low in content of organic matter, and low in fertility. Its available water capacity is moderate to low. Water and roots easily penetrate down to the fragipan.

The Prentiss soil has a brown silt loam surface layer that is 5 to 8 inches thick and has a high content of sand. The subsoil, to a depth of about 20 inches, is yellowish-brown silt loam to loam. It is underlain by a yellow, gray, and brown loam fragipan. Under the fragipan, at a depth of 20 to 28 inches, is gray and brown loam to sandy loam.

The Prentiss soil is strongly acid and medium in natural fertility. The available water capacity is moderate. Water and roots easily penetrate down to the fragipan.

Minor soils in this mapping unit are the Calhoun and Rumford soils. The Calhoun soils are poorly drained and gray in color; the Rumford soils are well drained and yellowish red.

This complex is used for row crops, pasture, and trees. It is well suited to loblolly, longleaf, and shortleaf pines. The hazard of erosion is generally slight when these soils are cultivated. Capability unit IIIw–2; woodland suitability group 12; woodland range site 1.

Waverly Series

The Waverly series consists of dark-gray to gray, poorly drained soils that occur on bottom lands in slackwater areas along the major streams in the county. These soils formed in recent alluvium that washed from silty soils. Slopes range from 0 to 2 percent.

Waverly soils occur with Falaya and Collins soils but are more poorly drained than either. Waverly soils have a gleyed horizon and gray mottles 10 inches or less from the surface. Falaya soils, in contrast, have a gleyed horizon and gray mottles at a depth of 10 to 20 inches, and the Collins, a gleyed horizon and gray mottles at a depth of 20 to 30 inches.

Profile of Waverly silt loam in a pasture on a slope of 1 percent (SE¼SW¼ sec. 13, T. 2 N., R. 7 E.):

Ap—0 to 8 inches, dark-gray (10YR 4/1) silt loam; few, fine, faint mottles of gray (10YR 6/1); weak, fine, granular structure; many fine roots; very strongly acid (pH 4.5); abrupt, smooth boundary.

C1g—8 to 10 inches, gray (10YR 6/1) silt loam; common, fine, distinct mottles of yellowish brown (10YR 5/4); structureless to weak, thin, platy structure; gleyed; few, fine, soft iron and manganese concretions; very strongly acid (pH 4.5); clear, smooth boundary.

C2g—10 to 24 inches, gray (10YR 6/1) silt loam; common, medium, distinct mottles of light yellowish brown (10YR 6/4); structureless; gleyed; few, fine, soft iron and manganese concretions; strongly acid (pH 5.0); abrupt, smooth boundary.

C3g—24 to 48 inches, light-gray (10YR 7/2) silt loam; many, medium, distinct mottles of yellowish brown (10YR 5/6); structureless; many fine and medium iron and manganese concretions; very strongly acid (pH 4.5).

The A1 horizon in those areas not cultivated is dark gray. The Ap horizon ranges from a dark gray to light grayish brown in color. The gleyed horizon occurs at a depth of 5 to 10 inches.

Waverly silt loam (0 to 2 percent slopes) (Wa).—This is a poorly drained soil on the bottom lands. The surface layer is gray to dark grayish-brown silt loam. The subsoil is a silt loam that has mottles.

Mapped with this soil, and making up 5 to 10 percent of its area, are Falaya and Collins soils, which are better drained and browner than this soil.

This soil is strongly acid and low to medium in natural fertility. Runoff is slow, and the available water capacity is high. Water and roots are retarded by the high water table during the rainy season. Tilth is fairly good.

Most of this soil is in trees. It is well suited to hardwoods, and in the higher, better drained areas, to loblolly pine. Small areas have been cleared for pasture and

crops. Flooding, however, is a severe hazard. V- and W-type ditches and dragline ditches can be used to drain this soil. Capability unit IVw–4; woodland suitability group 7; woodland range site 5.

Formation and Classification of Soils

This section has three main parts. In the first, the factors of soil formation and their effect on the soils of Pike County are described. In the second, the processes that form the different soil horizons are described. In the third, the soil series are classified by great soil groups.

Factors of Soil Formation

The five major factors of soil formation are parent material, climate, plant and animal life, topography, and time. Soil is produced by the interaction of these five factors. The kind of soil that forms in one area differs from the kind of soil in another area if there have been differences between the two areas in climate, vegetation, or the other major factors of soil formation.

One factor may dominate in the formation of a soil and fix most of its properties, as is common when a soil forms in pure quartz sand. Quartz is highly resistant to change, and the soils formed in it therefore tend to have faint horizons. Even in quartz sand, however, a distinct profile can be formed under certain kinds of vegetation if the topography is low and flat and the water table is high. Thus, for every soil the past combination of the major factors is of first importance in determining its present character.

Parent material

Parent material, the unconsolidated mass from which a soil develops, is largely responsible for the chemical and mineralogical composition of a soil. In this county the parent material of most of the soils was coastal plain sediments and loess, but some soils formed in alluvium.

The soils that formed in shallow loess are in the northwestern part of the county. This loess is thin, in most places only 2 to 4 feet thick. Where it has not weathered, this loess is uniform in physical and chemical composition, is fine textured, and contains particles of irregular shape. Most soil scientists believe this material was deposited by water and later blown from the flood plains and redeposited on the older coastal plain formation. Relief in this part of the county ranges from nearly level to steeply sloping.

The soils formed in coastal plain sediments occur in all parts of the county except in the northwestern. These sediments are of the Citronelle formation, which was deposited by the seas (7). The soils on coastal plain sediments are loamy to sandy and nearly level to very steep.

The soils along the larger streams in the county formed in alluvium, or material transported and redeposited by streams. Much of the alluvium along Terrys Creek and the Tangipahoa River originated from silty material, but the alluvium along the Bogue Chitto River and Topisaw Creek originated from loamy to sandy material of the coastal plain sediments.

The soils on high stream terraces and benches that formed in old alluvium have been in place long enough to have a well-defined profile. Those soils on the bottom lands have a weakly defined profile, because they receive fresh deposits of soil material in floodwaters. Along the drainageways throughout the county there are narrow strips consisting of local alluvium that has been modified very little, if any, by the soil-forming processes.

Climate

Climate, as a genetic factor affects the physical, chemical, and biological relationships in the soil, primarily through the influence of precipitation and temperature. Water dissolves minerals and supports biological and organic residues and distributes them through the soil profile. The amount of water that actually percolates through the soil over a broad area depends mainly upon the rainfall, relative humidity, and the length of the frost-free period. At a given point, the amount of downward percolation is also affected by physiographic position and by soil permeability.

Temperature influences the kinds of organisms and their growth, as well as the speed of physical and chemical reactions in the soils. These reactions are also influenced by the warm, moist weather that prevails most of the year. Water from the relatively high precipitation leaches bases and other soluble material and carries colloidal matter and other less soluble material downward. The mature soils in this county have been lightly leached, and leaching is progressing in the young soils.

In this county the soils are moist, and during most of the year they are subject to leaching. Freezing and thawing in this county have had little effect on weathering and soil-forming processes. The average temperature is approximately 78° F. from about May 1 through October 30.

Plant and animal life

Micro-organisms, plants, earthworms, and all other organisms that live on and in the soil have an important effect on its formation. Bacteria, fungi, and other microorganisms aid in weathering rock and decomposing organic matter. The larger plants serve to alter the microclimate, to furnish organic matter, and to transfer elements from the subsoil to the surface soil. The kinds and numbers of plants and animals that live on and in the soil are determined mainly by the climate, but partly by parent material, relief, and age of the soil.

Not much is known of the fungi and micro-organisms in the soils of this county, except that they are mostly in the top few inches. Earthworms and other small invertebrates are most active in the surface soil, where they continually mix the soil. Mixing of soil material by rodents does not appear to have been of much consequence in this county.

The native vegetation in the uplands was chiefly oak, hickory, and loblolly, longleaf, and shortleaf pines. On the better drained areas of the bottom lands, the growth was lowland hardwoods, mainly yellow-poplar, sweetgum, ash, and oak. Cypress, birch, blackgum, beech, and oak trees that tolerate water grew mainly on the poorly drained areas of the bottom lands.

Topography

Topography is largely determined by the kind of geologic formation, the geologic history of the general area,

and the effects of dissection by rivers and streams. It influences soil formation through its effects on moisture, erosion, temperature, and vegetation. This influence is modified by the other four factors of soil formation.

The slopes in Pike County range from 0 to 35 percent. In the uplands, the Ora, Providence, Ruston, and other soils have a thick, well-defined profile on slopes less than 17 percent. On slopes of 17 percent or more, geologic erosion removes the soil material almost as quickly as it forms. As a result, the Saffell soils and other soils on the steeper slopes have a thin, weakly defined profile. Level or nearly level soils that formed in recent alluvium also have a weakly defined profile.

Time

The length of time required for the formation of a soil depends largely on the other four factors of soil formation. Less time generally is required for a soil to develop in a humid, warm region where plant growth is abundant than in a dry, cold region where vegetation is scanty. Also, less time is required if the parent material is coarse textured than if it is fine textured, other things being equal.

Geologically the soils of the county are comparatively young. The coastal plain material was laid down by the sea during the Pliocene period. In the northwestern part of the county during the ice age this coastal plain material was covered by a thin mantle of loess.

The age of the soils of this county varies considerably. Generally speaking, the oldest soils show a greater degree of horizon differentiation than the younger ones. On the smoother parts of the uplands, for example, and on the older stream terraces, the soils are mature. On the steeper slopes geologic erosion has removed so much of the soil material that the horizons are less distinct. On the bottom lands and in areas of local alluvium, the soil material has been in place a short time and the soil profile has not reached maturity.

Processes of Soil Horizon Differentiation

Several processes were involved in the formation of horizons in soils of this county. These processes are (1) accumulation of organic matter, (2) leaching of calcium carbonates and bases, (3) the liberation, reduction, and transfer of iron, and (4) formation and translocation of silicate clay minerals. In most soils, more than one of these processes have been active in the development of horizons.

The accumulation of organic matter in the upper part of the profile has been important in the formation of an A1 horizon. The soils of this county range from low to very low in content of organic matter.

Carbonates and bases have been leached from nearly all of the soils. Soil scientists are generally agreed that leaching of bases from the upper horizons of a soil usually precedes translocation of silicate clay minerals. Most of the soils in this county are moderately to strongly leached, and this leaching has contributed to the development of horizons.

The reduction and transfer of iron, a process called gleying, is evident in the poorly drained Frost, Waverly, and Calhoun soils of the county. The gray color in the subsoil horizons indicates the reduction and loss of iron. Some horizons contain reddish-brown mottles and concretions which indicate a segregation of iron. This is found in the horizons of Stough and Prentiss soils.

In some of the soils of this county, the translocation of silicate clay minerals has contributed to the development of horizons. The eluviated A2 horizon, has a platy structure, is lower in content of clay and is usually lighter in color than the B horizon. The B horizon usually has accumulated clay, or clay films in pores and on the surfaces of peds. These soils were probably leached of carbonates and soluble salts to a considerable extent before translocation of silicate clays took place. The leaching of bases and translocation of silicate clays are among the more important processes in the formation of different horizons in the soils of this county. Ora, Providence, Ruston, and other soils are examples of soils that have translocated silicate clays in the B horizon in the form of clay films.

Classification of Soils

Soils are classified so that we may more easily remember their significant characteristics, assemble knowledge about the soils, see their relationships to one another and to the whole environment, and develop principles that help us understand their behavior and their response to manipulation. First through classification, and then through use of soil maps, we can apply our knowledge of soils to specific fields and other tracts of land.

The current system of classification defines classes in terms of observable or measurable properties of soils. The properties chosen are primarily those that permit grouping of soils that are similar in genesis. Genesis, or mode of soil origin, does not appear in the definition of the classes; it lies behind the classes. The classification is designed to accommodate all soils. It employs a unique nomenclature that is both connotative and distinctive.

The system of classification discussed in this section is that adopted by the Soil Conservation Service, effective January 1, 1965.[6]

The soil series of Pike County have been classified by order, subgroup, and family as shown in table 8. This table also shows placement of the soil series by great soil groups in the earlier classification.

New soil series must be established and concepts of some established series, especially older ones that have been used little in recent years, must be revised in the course of the soil survey program across the country. A proposed new series has tentative status until review of the series concept at the State, regional, and national levels of responsibility for soil classification result in a judgment that the new series should be established. All of the soil series described in this publication except the

[6] The current system replaces the classification of Baldwin, Kellogg, and Thorp (*2*), as revised by Thorp and Smith (*10*). More detailed explanation of the current system can be obtained by referring to Simonson (*8*), and to "Soil Classification, A Comprehensive System, 7th Approximation," prepared in 1960 by the Soil Survey Staff, Soil Conservation Service, U.S. Department of Agriculture, and circulated to soil scientists and others for study, criticism, and testing.

TABLE 8.—*Soil series classified according to current* [1] *and preceding systems of classification*

Series	Current classification			Old classification
	Family	Subgroup	Order	Great soil group
Bibb	Coarse loamy, mixed, acid, thermic	Fluventic Haplaquepts	Inceptisols	Low-Humic Gley.
Brookhaven	Fine silty, mixed, thermic	Ochreptic Fragiudalfs	Alfisols	Planosol.
Bruno	Sandy, siliceous, nonacid, thermic	Typic Udifluvents	Entisols	Alluvial.
Cahaba	Fine loamy, siliceous, thermic	Typic Hapludults	Ultisols	Red-Yellow Podzolic.
Calhoun	Fine silty, mixed, thermic	Typic Glossaqualfs	Alfisols	Planosol.
Collins	Coarse silty, mixed, acid, thermic	Aquic Udifluvents	Entisols	Alluvial.
Falaya	Coarse silty, mixed, acid, thermic	Aeric Haplaquepts	Inceptisols	Alluvial.
Frost	Fine silty, mixed, thermic	Typic Glossaqualfs	Alfisols	Low-Humic Gley.
Iuka	Coarse loamy, siliceous, acid, thermic	Aquic Udifluvents	Entisols	Alluvial.
Kinsey	Coarse loamy, siliceous, acid, thermic	Typic Udifluvents	Entisols	Alluvial.
Mantachie	Fine loamy, siliceous, acid, thermic	Aeric Haplaquepts	Inceptisols	Alluvial.
Ochlockonee	Coarse loamy, siliceous, acid, thermic	Typic Udifluvents	Entisols	Alluvial.
Ora	Fine loamy, mixed, thermic	Typic Fragiudults	Ultisols	Red-Yellow Podzolic.
Paden	Fine silty, mixed, thermic	Ochreptic Fragiudults	Ultisols	Red-Yellow Podzolic.
Prentiss	Coarse loamy, siliceous, thermic	Typic Fragiudults	Ultisols	Red-Yellow Podzolic.
Providence	Fine silty, mixed, thermic	Typic Fragiudalfs	Alfisols	Red-Yellow Podzolic.
Rumford	Coarse loamy, siliceous, thermic	Typic Hapludults	Ultisols	Red-Yellow Podzolic.
Ruston	Fine loamy, mixed, thermic	Typic Hapludults	Ultisols	Red-Yellow Podzolic.
Saffell	Loamy skeletal, siliceous, thermic	Typic Hapludults	Ultisols	Red-Yellow Podzolic.
Savannah	Fine loamy, mixed, thermic	Typic Fragiudults	Ultisols	Red-Yellow Podzolic.
Stough	Coarse loamy, siliceous, thermic	Aquic Fragiudults	Ultisols	Planosol.
Waverly	Coarse silty, siliceous, acid, thermic	Typic Haplaquepts	Inceptisols	Low-Humic Gley.

[1] Placement of some soil series in the current system of classification, particularly in families, may change as more precise information becomes available.

Kinsey series had been established earlier. The Kinsey series had tentative status when this survey was sent to the printer.

ORDER: Ten soil orders are recognized in the current system. They are Entisols, Vertisols, Inceptisols, Aridisols, Mollisols, Spodosols, Alfisols, Ultisols, Oxisols, and Histosols. The properties used to differentiate the soil orders are those that tend to give broad climatic groupings of soils. The two exceptions are the Entisols and Histosols, which occur in many different climates. Each order is named with a word of three of four syllables ending in *sol* (Ent-i-sol).

The four orders represented in Pike County are Entisols, Inceptisols, Alfisols, and Ultisols. Entisols are recent soils; they are without genetic horizons, or have only the beginnings of such horizons. In this county the order includes many, but not all, of the soils previously classified as Alluvial soils and Regosols.

Inceptisols most often occur on young, but not recent, land surfaces; hence, their name is derived from the Latin *inceptum*, for beginning. In this county the order includes soils that were formerly called Alluvial soils and some that were formerly known as Low-Humic Gleys.

Alfisols are soils which have clay-enriched B horizons high in base saturation. In this county the order includes most of the soils that have been called Gray-Brown Podzolic soils and associated Alluvial soils.

Ultisols have a clay-enriched B horizon that has less than 35 percent base saturation, which decreases with depth. In this county the order includes most of the Red-Yellow Podzolic soils and also some acid soils that have been called Low-Humic Gleys.

SUBORDER: Each order is subdivided into suborders, primarily on basis of those soil characteristics that seem to produce classes having the greatest genetic similarity. The suborders narrow the broad climatic range permitted in the orders. The soil properties used to separate suborders mainly reflect either the presence or absence of waterlogging or soil differences resulting from the climate or vegetation. The names of suborders have two syllables. The last syllable indicates the order. An example is Fluvents (Fluv meaning flood plain, and ent, from Entisols).

GREAT GROUP: Soil suborders are separated into great groups on basis of uniformity in the kinds and sequence of major soil horizons and features. The horizons used to make separations are those in which clay, iron, or humus have accumulated, or those that have pans that interfere with growth of roots or movement of water. The features used are the self-mulching properties of clay, soil temperature, major differences in chemical composition (mainly calcium, magnesium, sodium, and potassium), and the like. The names of great groups have three or four syllables and are made by adding a prefix Entisol).

to the name of the suborder. An example is Udifluvent (Udi meaning humid; fluv for flood plain; and ent, from

SUBGROUP: Great groups are divided into subgroups, one representing the central (typic) segment of a group and others, called intergrades, that have properties of one great group and also one or more properties of another great group, suborder, or order. Subgroups may also be made in those instances where soil properties intergrade outside of the range of another great group, suborder, or order. The names of subgroups are derived by

placing one or more adjectives before the name of the great group. An example is Typic Udifluvent (a typical Udifluvent).

FAMILY: Families are separated within a subgroup primarily on the basis of properties important to the growth of plants or behavior of soils when used for engineering. Among the properties considered are texture, mineralogy, reaction, soil temperature, permeability, thickness of horizons, and consistence. A family name consists of a series of adjectives that precede the subgroup name. The adjectives are the class names for texture, mineralogy, and so on, that are used as family differentiae (see table 8). An example is the sandy, siliceous, non-acid, thermic family of Typic Udifluvents.

SERIES: The series is a group of soils that have major horizons that, except for the texture of the surface layer, are similar in important characteristics and arrangement in the profile. The soil series generally is given the name of a geographic location near the place where a soil of that series was first observed and mapped. An example is the Brookhaven series.

General Nature of the Area

The area which is now Pike County was settled between 1799 and 1808. The first permanent settlement was 7 miles north of Holmesville. John Applewhite, Jacob Ford, and others from North Carolina, and Michael Harvey from Georgia, were the first settlers. The territory was originally occupied by the Chickasaw, Choctaw, and Natchez Indians. More settlers from Alabama and Georgia came between 1808 and 1816 and settled along the Bogue Chitto River, Bala Chitto Creek, and other large streams.

The county seat was located at Holmesville on December 11, 1816, and named in honor of Maj. Andrew Holmes. In the fall of 1875 the courthouse and county seat were moved from Holmesville to Magnolia.

In 1914 Pike County was divided into almost equal parts by a line running north and south. Walthall County was organized east of this line. The population of Pike County was 35,063 in 1960.

The county is mainly agricultural, but it is also the location for several industries, among which are garment factories, sawmills, milling companies, repair shops, bottling companies, concrete companies, container corporations, a box company, and a pole and piling plant. In addition there are several fields in which there are producing oil and gas wells.

Pike County contains parts of three major watersheds. They are those of the Bogue Chitto River and Topisaw Creek, the Tangipahoa River, and Terrys Creek. Two of these, the Tangipahoa River and Terrys Creek, have their headwaters in the county.

These watersheds are fed by many streams such as Beaver Creek, Clabber Creek, Love Creek, Clear Creek, Little Tangipahoa Creek, Bala Chitto Creek, Silver Springs Creek, Minnehaha Creek, and Bars Branch.

The surface drainage of this county is approaching maturity, but there are still a few areas in the uplands that do not have surface drainage channels. Floods occur on the flood plains of these streams, but the water does not stay on the land for a long period. Small areas in the bottom lands, however, are under water for long periods of time. These need small dragline ditches and V- and W-type ditches.

Climate [7]

The climate of this county is characterized by long, warm, somewhat humid summers and by mild, moist winters. The average annual rainfall is about 60 inches. Facts about temperature and precipitation in the county, taken from the U.S. Weather Bureau at Magnolia and McComb, are given in table 9.

Four main influences determine the climate of this county. These are the subtropical latitude of the county, the huge land mass to the north of the county, the warm waters of the Gulf of Mexico to the south, and the prevailing southerly winds.

In summer the prevailing southerly winds account for a moist, tropical climate, but sometimes west and north winds bring hot, dry weather. If the west and north winds continue, drought can develop. These changing winds cause large and immediate changes in temperature. Temperatures of 90° F. or higher occur on an average of 90 days during summer. When the temperature is 90° or higher, the relative humidity never exceeds 79 percent.

In winter the temperature drops below freezing every year but remains this low only for a short time. Ordinarily, snow falls in January once in every 4 years, and it melts rapidly. When the temperature is below 50° F., the relative humidity is 50 to 70 percent during 48 percent of the hours, and 80 to 100 percent during 41 percent of the hours.

Temperatures of 32° or lower occur on an average of 35 days in winter. Temperatures of 20° or lower occur every 2 out of 3 years, and occasionally the ground is frozen for a short time to a shallow depth.

Facts about the probabilities of the last freezing temperatures in spring and first in fall are given in table 10. Frost can form on vegetation, under a clear sky, and in calm air at night, when the temperature registered on a thermometer 5 feet above ground in a shelter, is above 32°F. For this reason, and because low temperatures, even though above freezing, can adversely affect vegetation or seeds in beds, probabilities for 36° and 40° temperature thresholds are included in table 10. The 24° to 32° data are based on 30 years of record in the period 1921–50, and the data for 36° and 40° temperatures are based on records for the period 1931–60.

Moisture is ample throughout the year. Prolonged rains come in winter and spring. These rains are brought by warm Gulf air that sweeps over a mass of cold surface air. During summer and early in fall, thundershowers provide the moisture. These thundershowers are generally widely scattered. Sometimes a local area has a drought because rain does not fall for days. Fall is the driest season, and October is the driest month.

[7] By State climatologist, U.S. Weather Bureau.

TABLE 9.—*Temperature and precipitation data* [1]

Month	Temperature				Precipitation				
	Average daily maximum	Average daily minimum	Two years in 10 will have at least 4 days with—		Average total	One year in 10 will have—		Number of days with snow cover of 1 inch or more	Average depth of snow on days with snow cover of 1 inch or more
			Maximum temperature equal to or higher than—	Minimum temperature equal to or lower than—		Less than—	More than—		
	°F.	°F.	°F.	°F.	*Inches*	*Inches*	*Inches*		*Inches*
January	62	41	79	25	5.6	3.04	11.28	(2)	4
February	65	43	80	23	5.2	2.33	7.53	0	
March	71	47	82	33	6.3	2.81	8.84	0	
April	78	55	86	38	5.0	2.22	8.42	0	
May	85	62	92	53	5.0	2.14	7.94	0	
June	92	69	97	60	4.8	1.54	7.38	0	
July	93	71	96	68	6.6	3.28	10.95	0	
August	92	70	98	64	4.6	2.37	7.27	0	
September	89	66	95	56	3.9	.95	7.32	0	
October	81	55	89	34	2.6	.90	4.89	0	
November	69	45	80	27	3.9	1.13	7.93	0	
December	63	41	77	26	6.3	3.44	10.51	0	
Year	78	55	[3] 100	[4] 18	59.8	48.41	71.35	0	

[1] All data from records of Magnolia, Miss., 1931–48, and McComb, Miss., 1949–60.
[2] Less than 0.5 day.
[3] Average annual highest maximum.
[4] Average annual lowest minimum.

TABLE 10.—*Probabilities of last freezing temperatures in spring and first in fall* [1]

Probability	Dates for given probability and temperature				
	24° F. or lower	28° F. or lower	32° F. or lower	36° F. or lower	40° F. or lower
Spring:					
1 year in 10 later than	March 6.	March 17.	April 5.	April 14.	April 26.
2 years in 10 later than	February 24.	March 11.	March 30.	April 8.	April 21.
5 years in 10 later than	February 5.	February 26.	March 18.	March 28.	April 12.
Fall:					
1 year in 10 earlier than	November 24.	November 13.	October 30.	October 19.	October 10.
2 years in 10 earlier than	December 1.	November 19.	November 3.	October 24.	October 15.
5 years in 10 earlier than	December 19.	December 2.	November 12.	November 3.	October 25.

[1] All data from records of Magnolia, Miss., for 1931–48 and McComb, Miss., for 1949–60.

In any month precipitation of 3.00 inches or more can occur in 24 hours. Local flash flooding results from this heavy rainfall. Though thunderstorms are frequent in the summer, hail is uncommon. Tornadoes occur about once in 14 years. Gale force winds (39 to 74 miles per hour) occur about once in 14 years; and hurricane force winds occur about once in 60 years.

Agriculture [8]

Early settlers in Pike County found heavy growths of virgin forest, mainly pine trees, and some areas suitable for pasture along the streams and on the terraces. They engaged mainly in stock raising but grew corn, cotton, wheat, tobacco, and sweetpotatoes mostly for home use.

By 1909, cotton had become the leading crop. It continued as the main crop for many years, but by 1959 cropland in cotton had dropped to less than 3,000 acres, as contrasted to nearly 42,000 acres in 1909.

The decline in acreage of cotton has been opposed by an increase in acreage of improved pasture and greater emphasis on production of beef cattle and dairying. Permanent pasture occupied 40,247 acres in 1959.

In 1959, the farms in the county reported 27,438 cattle, 4,721 hogs and pigs, 1,786 horses and mules, 1,298 sheep and lambs, and 45,071 chickens. In that year, corn was grown on 10,664 acres; hay crops on 6,783 acres; cotton on 2,779 acres; and vegetables harvested for sale on 252 acres.

The number of farms in Pike County decreased from 2,531 in 1954 to 1,733 in 1960, a decline of 31.5 percent. In the same period, land in farms decreased from 207,817 acres to 172,227. The average farm was 99.4 acres in 1959, as compared to 82.1 acres in 1954, an increase of about 17 percent in farm size.

[8] Statistics are from United States Census of Agriculture.

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Glossary

Aggregate, soil. Many fine particles held in a single mass or cluster, such as a clod, crumb, block, or prism.

Alluvium. Soil material, such as sand, silt, or clay, that has been deposited on land by streams.

Available water capacity. The amount of moisture a soil can hold in a form that is available to plants. This is approximately the amount of water held between field capacity, or about one-third atmosphere of tension, and the wilting coefficient, or about 15 atmospheres of tension.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Clay film. A thin coating of clay on the surface of a soil aggregate. Synonyms: Clay coat, clay skin.

Claypan. A compact, slowly permeable soil horizon that contains more clay than the horizon above it and below it. A claypan is commonly hard when dry and plastic or stiff when wet.

Colluvium. Soil material, rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Complex, soil. A mapping unit consisting of different kinds of soil that occur in such small individual areas or in such an intricate pattern that they cannot be shown separately on a publishable soil map.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Some of the terms commonly used in this survey to describe consistence are—

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Friable.—When moist, crushes easily under gentle to moderate pressure between thumb and forefinger, and can be pressed together into a lump.

Plastic.—When wet, forms a wire or spindle when rolled between thumb and forefinger, can be readily deformed by moderate pressure and pressed into a lump.

Sticky.—When wet, adheres to other material and tends to stretch somewhat and pull apart, rather than pull free from other material.

Contour furrow. A furrow plowed at right angles to the direction of slope, at the same level throughout, and at a regular interval from other furrows of the same kind.

Diversion ditch. A ridge of earth, generally a terrace, that is built to divert runoff from its natural course and, thus, to protect areas downslope from the effects of such runoff.

First bottom. The normal flood plain of a stream; frequently or occasionally flooded.

Fragipan. A loamy, brittle, subsurface horizon very low in organic matter and clay but rich in silt or very fine sand. The layer is seemingly cemented when dry, has a hard or very hard consistence, and has a high bulk density in comparison with the horizon or horizons above it. When moist, the fragipan tends to rupture suddenly if pressure is applied, rather than to deform slowly. The layer is generally mottled, is slowly or very slowly permeable to water, and has few or many bleached fracture planes that form polygons. Fragipans are a few inches to several feet thick; they generally occur below the B horizon, 15 to 40 inches below the surface.

Gley soil. A soil in which waterlogging and lack of oxygen have caused the soil material in one or more horizons to be of a neutral gray color. The term "gleyed" is applied to soil horizons with yellow and gray mottling caused by intermittent waterlogging.

Horizon, soil. A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes.

Infiltration. The downward entry of water into the immediate surface of the soil or other material, as contrasted with percolation, which is movement of water through soil layers or material.

Leaching. The removal of soluble materials from soils or other material by percolating water.

Loess. A fine-grained eolian, or windblown, deposit consisting dominantly of silt-sized particles.

Morphology, soil. The makeup of the soil, including the texture, structure, consistence, color, and other physical, chemical, mineralogical, and biological properties of the various horizons in the soil profile.

Mottling, soil. Irregular marking with spots of different colors that vary in number and size. Mottling in soils usually indicates poor aeration and lack of drainage. Descriptive terms are as follows: Abundance—*few, common,* and *many*; size—*fine, medium,* and *coarse;* and contrast—*faint, distinct,* and *prominent.* The size measurements are these: fine, less than 5 millimeters (about 0.2 inch) in diameter along the greatest dimension; medium, ranging from 5 millimeters to 15 millimeters (about 0.2 to 0.6 inch) in diameter along the greatest dimension; and coarse, more than 15 millimeters (about 0.6 inch) in diameter along the greatest dimension.

Natural drainage. Drainage that existed during the development of the soil, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets.

Excessively drained soils are commonly very porous and rapidly permeable and have a low water-holding capacity.

Somewhat excessively drained soils are also very permeable and are free from mottling throughout their profile.

Well-drained soils are nearly free from mottling and are commonly of intermediate texture.

Moderately well drained soils commonly have a slowly permeable layer in or immediately beneath the solum. They have uniform color in the A and upper B horizons and have mottling in the lower B and C horizons.

Imperfectly or somewhat poorly drained soils are wet for significant periods but not all the time, and in podzolic soils commonly have mottlings below a depth of 6 to 16 inches, in the lower A horizon and in the B and C horizons.

Poorly drained soils are wet for long periods and are light gray and generally mottled from the surface downward, although mottling may be absent or nearly so in some soils.

Very poorly drained soils are wet nearly all the time. They have a dark-gray or black surface layer and are gray or light gray, with or without mottling, in the deeper parts of the profile.

Parent material (soil). The horizon of weathered rock or partly weathered soil material from which soil has formed; horizon C in the soil profile.

Permanent pasture. Pasture that is on the soil for a long time, in contrast to rotation pasture, which is on the soil only a year or two because it is grown in rotation with other crops.

Permeability, soil. The quality of a soil horizon that enables water or air to move through it. Terms used to describe permeability are as follows: *Very slow, slow, moderately slow, moderate, moderately rapid, rapid,* and *very rapid.*

Phase, soil. The subdivision of a soil type, series, or other unit in the soil classification system made because of differences in the soil that affect its management but do not affect its classification in the natural landscape. A soil type, for example, may be divided into phases because of differences in slope, stoniness, thickness, or some other characteristic that affects management.

Productivity (of soil). The present capability of a soil for producing a specified plant or sequence of plants under a specified system of management. It is measured in terms of output, or harvest, in relation to input of production for the specific kind of soil under a specified system of management.

Profile, soil. A vertical section of the soil through all its horizons and extending into the parent material. See Horizon, soil.

Reaction, soil. The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is precisely neutral in reaction because it is neither acid nor alkaline. In words, the degrees of acidity or alkalinity are expressed thus:

	pH		*pH*
Extremely acid	Below 4.5	Mildly alkaline	7.4–7.8
Very strongly acid	4.5–5.0	Moderately alkaline	7.9–8.4
Strongly acid	5.1–5.5	Strongly alkaline	8.5–9.0
Medium acid	5.6–6.0	Very strongly alkaline	9.1 and higher
Slightly acid	6.1–6.5		
Neutral	6.6–7.3		

Relief. The elevations or inequalities of a land surface, considered collectively.

Sand. Individual rock or mineral fragments in soils having diameters ranging from 0.05 to 2.0 millimeters. Most sand grains consist of quartz, but they may be of any mineral composition. The textural class name of any soil that contains 85 percent or more sand and not more than 10 percent clay.

Series, soil. A group of soils developed from a particular type of parent material and having genetic horizons that, except for texture of the surface layer, are similar in differentiating characteristics and in arrangement in the profile.

Silt. Individual mineral particles in a soil that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). Soil of the silt textural class is 80 percent or more silt and less than 12 percent clay.

Solum. The upper part of a soil profile, above the parent material, in which the processes of soil formation are active. The solum in mature soil includes the A and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and other plant and animal life characteristic of the soil are largely confined to the solum.

Structure, soil. The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles. The principal forms of soil structure are *platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), columnar (prisms with rounded tops), *blocky* (angular or subangular), and *granular. Structureless* soils are (1) *single grain* (each grain by itself, as in dune sand) or (2) *massive* (the particles adhering together without any regular cleavage, as in many claypans and hardpans).

Subsoil. Technically, the B horizon; roughly, that part of the profile below plow depth.

Substratum. Any layer beneath the solum, or true soil.

Surface runoff. Water that flows off the land surface without sinking in. Terms used to express relative degrees of runoff are *very rapid, rapid, medium, slow, very slow,* and *ponded.*

Surface soil. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, about 5 to 8 inches in thickness. The plowed layer.

Texture, soil. The relative portions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay, and clay. The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Tilth, soil. The condition of the soil in relation to the growth of plants, especially soil structure. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable, granular structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

Topsoil. A presumed fertile soil or soil material, ordinarily rich in organic matter, used to topdress roadbanks, parks, gardens, and lawns.

Trafficability. The ability of undisturbed soil to support moving loads or foot traffic. The evaluation is based on undisturbed soil, but the characteristics of a soil disturbed and then carefully compacted are very similar.

Type, soil. A subdivision of the soil series that is made on the basis of differences in the texture of the surface layer.

Undifferentiated soil group. Two or more related soils that are mapped as a single unit because, in practical use, their differences are too small to justify separate recognition.

GUIDE TO MAPPING UNITS

[For a full description of a mapping unit, read both the description of the mapping unit and the description of the soil series to which the mapping unit belongs.

[See table 7, page 38, for acreage and proportionate extent of soils; table 1, page 13, for estimates of average yields of the major crops; table 3, page 26, table 4, page 30, and table 5, page 34, for engineering properties of the soils; and table 2, page 20, for woodland suitability groups]

Map symbol	Mapping unit	Described on page	Capability unit		Woodland range site		Woodland suitability group
			Symbol	Page	Number	Page	Number
Bb	Bibb loam	39	IVw-1	11	3	16	8
BhA	Brookhaven silt loam, 0 to 2 percent slopes	40	IIw-6	8	4	16	3
BhB	Brookhaven silt loam, 2 to 5 percent slopes	40	IIw-6	8	4	16	3
BhB2	Brookhaven silt loam, 2 to 5 percent slopes, eroded	40	IIw-6	8	4	16	3
BhC2	Brookhaven silt loam, 5 to 8 percent slopes, eroded	40	IIIe-1	8	4	16	3
CaF	Cahaba fine sandy loam, 17 to 35 percent slopes	41	VIIe-2	12	2	16	1
CaF3	Cahaba fine sandy loam, 17 to 35 percent slopes, severely eroded	41	VIIe-2	12	2	16	2
Ch	Calhoun silt loam	42	IVw-2	11	5	17	10
Cl	Collins silt loam, local alluvium	42	IIw-1	6	5	17	5
Co	Collins silt loam	42	IIw-1	6	5	17	5
Fa	Falaya silt loam	43	IIw-2	7	5	17	6
Fr	Frost silt loam	44	IIIw-1	10	4	16	9
Gu	Gullied land	44	VIIe-1	12	--	--	15
Io	Iuka and Ochlockonee soils	44	IIw-3	7	3	16	13
Kn	Kinsey soils	45	IIw-3	7	3	16	13
Ma	Mantachie fine sandy loam	45	IIw-4	7	3	16	11
Ob	Ochlockonee and Bruno soils	46	IVw-3	11	3	16	13
OfA	Ora fine sandy loam, 0 to 2 percent slopes	46	IIw-5	7	1	15	4
OfB	Ora fine sandy loam, 2 to 5 percent slopes	46	IIe-1	6	1	15	4
OfB2	Ora fine sandy loam, 2 to 5 percent slopes, eroded	47	IIe-1	6	1	15	4
OfB3	Ora fine sandy loam, 2 to 5 percent slopes, severely eroded	47	IIIe-2	8	1	15	4
OfC2	Ora fine sandy loam, 5 to 8 percent slopes, eroded	47	IIIe-3	8	1	15	4
OfC3	Ora fine sandy loam, 5 to 8 percent slopes, severely eroded	47	IVe-1	10	1	15	4
OrC2	Ora-Ruston complex, 5 to 8 percent slopes, eroded	48	IIIe-3	8	1	15	4
OrC3	Ora-Ruston complex, 5 to 8 percent slopes, severely eroded	48	IVe-1	10	1	15	4
PaA	Paden silt loam, 0 to 2 percent slopes	49	IIw-5	7	1	15	4
PrB2	Providence silt loam, 2 to 5 percent slopes, eroded	50	IIe-2	6	4	16	14
PrC2	Providence silt loam, 5 to 8 percent slopes, eroded	50	IIIe-4	9	4	16	14
PrC3	Providence silt loam, 5 to 8 percent slopes, severely eroded	50	IVe-2	10	4	16	14
RmA	Rumford sandy loam, 0 to 3 percent slopes	51	IIs-1	8	1	15	1
RuB2	Ruston fine sandy loam, 2 to 5 percent slopes, eroded	51	IIe-3	6	1	15	1
RuD2	Ruston fine sandy loam, 8 to 12 percent slopes, eroded	52	IVe-3	10	1	15	1
RuD3	Ruston fine sandy loam, 8 to 12 percent slopes, severely eroded	52	VIe-1	12	2	16	2
RuE2	Ruston fine sandy loam, 12 to 17 percent slopes, eroded	52	VIe-1	12	2	16	1
RuE3	Ruston fine sandy loam, 12 to 17 percent slopes, severely eroded	52	VIIe-2	12	2	16	2
SaC	Saffell gravelly fine sandy loam, 5 to 8 percent slopes	53	IIIe-5	9	1	15	1
SaE	Saffell gravelly fine sandy loam, 8 to 17 percent slopes	53	VIe-2	12	2	16	1
SaF	Saffell gravelly fine sandy loam, 17 to 35 percent slopes	53	VIIe-2	12	2	16	1
SnB2	Savannah silt loam, 2 to 5 percent slopes, eroded	54	IIe-1	6	1	15	4
SnC2	Savannah silt loam, 5 to 8 percent slopes, eroded	54	IIIe-3	8	1	15	4
SoA	Stough silt loam, 0 to 2 percent slopes	55	IIIw-2	10	1	15	12
SpB	Stough-Prentiss complex, 2 to 5 percent slopes	55	IIIw-2	10	1	15	12
Wa	Waverly silt loam	55	IVw-4	11	5	17	7

Accessibility Statement

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U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
MISSISSIPPI AGRICULTURAL EXPERIMENT STATION

GENERAL SOIL MAP
PIKE COUNTY, MISSISSIPPI

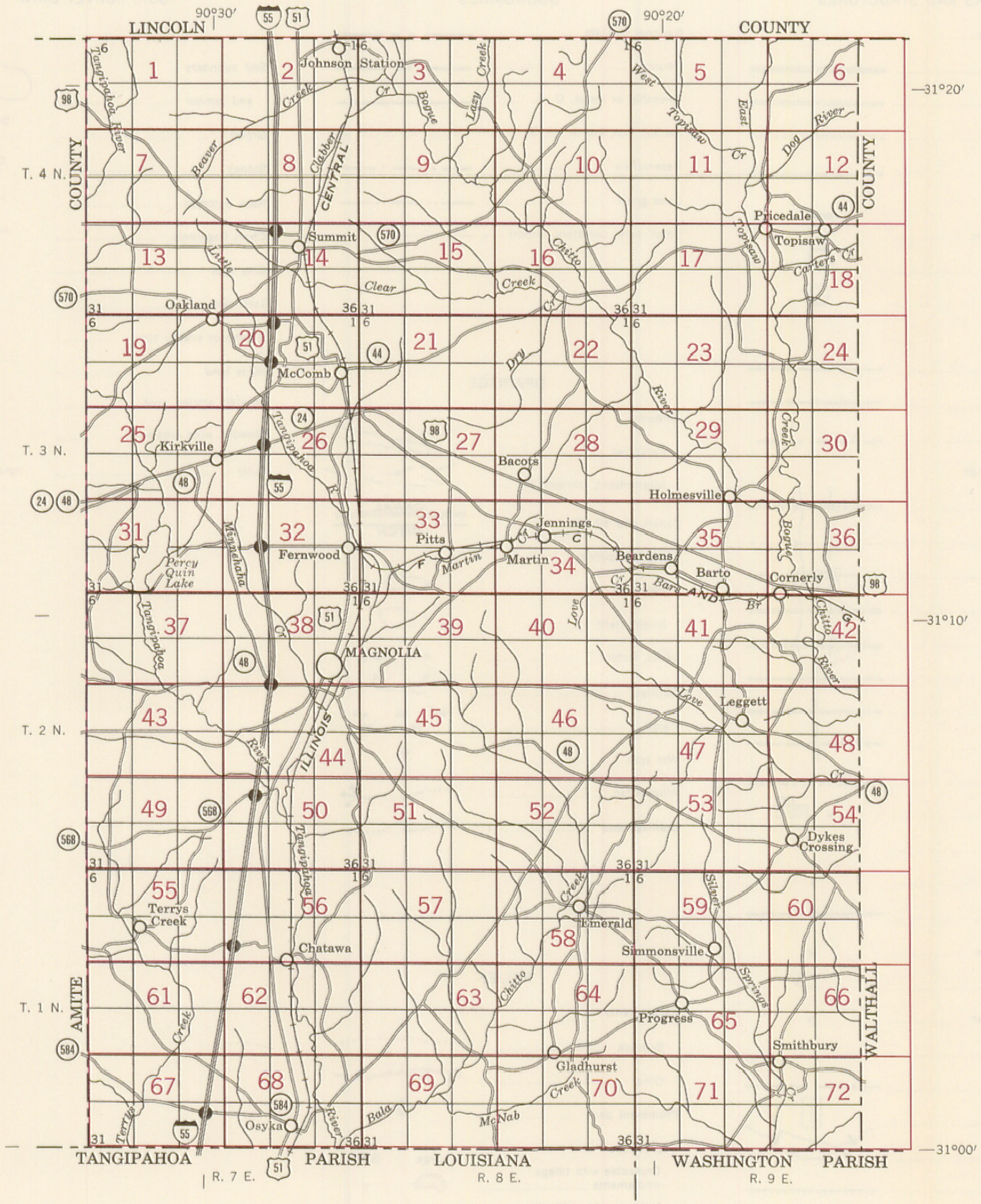
SCALE IN MILES
1 0 1 2 3 4

N

SOIL ASSOCIATIONS

1. Falaya-Waverly-Collins association: Poorly drained to moderately well drained silty soils on flood plains
2. Mantachie-Iuka-Ochlockonee association: Somewhat poorly drained to well drained loamy soils on flood plains
3. Stough-Calhoun-Prentiss association: Poorly drained to moderately well drained silty to loamy soils on stream terraces bordering the Bogue Chitto and Tangipahoa Rivers
4. Providence-Ora-Ruston association: Moderately well drained or well drained silty and loamy soils on broad ridges, and well-drained loamy soils on side slopes
5. Brookhaven-Providence association: Moderately well drained silty soils on gently sloping uplands
6. Ora-Savannah-Ruston association: Moderately well drained or well drained silty and loamy soils on narrow to broad gently sloping ridges, and well-drained loamy soils on side slopes
7. Ora-Ruston-Saffell-Cahaba association: Well-drained loamy soils on narrow to broad gently sloping ridges, and well-drained loamy and gravelly soils on moderately steep to very steep side slopes

December 1966



N

INDEX TO MAP SHEETS

PIKE COUNTY, MISSISSIPPI

SCALE IN MILES

1 0 1 2 3 4

SOIL LEGEND

The first capital letter is the initial one of the soil name. A second capital letter, A, B, C, D, E, or F, shows the slope. Symbols for nearly level soils, such as Bibb loam, do not contain a slope letter. Neither does the symbol for the land type that has considerable range in slope-- Gullied land. The number, 2 or 3, in a symbol indicates that the soil is eroded or severely eroded.

SYMBOL	NAME
Bb	Bibb loam
BhA	Brookhaven silt loam, 0 to 2 percent slopes
BhB	Brookhaven silt loam, 2 to 5 percent slopes
BhB2	Brookhaven silt loam, 2 to 5 percent slopes, eroded
BhC2	Brookhaven silt loam, 5 to 8 percent slopes, eroded
CaF	Cahaba fine sandy loam, 17 to 35 percent slopes
CaF3	Cahaba fine sandy loam, 17 to 35 percent slopes, severely eroded
Ch	Calhoun silt loam
Cl	Collins silt loam, local alluvium
Co	Collins silt loam
Fa	Falaya silt loam
Fr	Frost silt loam
Gu	Gullied land
Io	Iuka and Ochlockonee soils
Kn	Kinsey soils
Ma	Mantachie fine sandy loam
Ob	Ochlockonee and Bruno soils
OfA	Ora fine sandy loam, 0 to 2 percent slopes
OfB	Ora fine sandy loam, 2 to 5 percent slopes
OfB2	Ora fine sandy loam, 2 to 5 percent slopes, eroded
OfB3	Ora fine sandy loam, 2 to 5 percent slopes, severely eroded
OfC2	Ora fine sandy loam, 5 to 8 percent slopes, eroded
OfC3	Ora fine sandy loam, 5 to 8 percent slopes, severely eroded
OrC2	Ora-Ruston complex, 5 to 8 percent slopes, eroded
OrC3	Ora-Ruston complex, 5 to 8 percent slopes, severely eroded
PaA	Paden silt loam, 0 to 2 percent slopes
PrB2	Providence silt loam, 2 to 5 percent slopes, eroded
PrC2	Providence silt loam, 5 to 8 percent slopes, eroded
PrC3	Providence silt loam, 5 to 8 percent slopes, severely eroded
RmA	Rumford sandy loam, 0 to 3 percent slopes
RuB2	Ruston fine sandy loam, 2 to 5 percent slopes, eroded
RuD2	Ruston fine sandy loam, 8 to 12 percent slopes, eroded
RuD3	Ruston fine sandy loam, 8 to 12 percent slopes, severely eroded
RuE2	Ruston fine sandy loam, 12 to 17 percent slopes, eroded
RuE3	Ruston fine sandy loam, 12 to 17 percent slopes, severely eroded
SaC	Saffell gravelly fine sandy loam, 5 to 8 percent slopes
SaE	Saffell gravelly fine sandy loam, 8 to 17 percent slopes
SaF	Saffell gravelly fine sandy loam, 17 to 35 percent slopes
SnB2	Savannah silt loam, 2 to 5 percent slopes, eroded
SnC2	Savannah silt loam, 5 to 8 percent slopes, eroded
SoA	Stough silt loam, 0 to 2 percent slopes
SpB	Stough-Prentiss complex, 2 to 5 percent slopes
Wa	Waverly silt loam

CONVENTIONAL SIGNS

WORKS AND STRUCTURES

Highways and roads
- Dual
- Good motor
- Poor motor
- Trail

Highway markers
- National Interstate
- U. S.
- State or county

Railroads
- Single track
- Multiple track
- Abandoned

Bridges and crossings
- Road
- Trail, foot
- Railroad
- Ferry (FY)
- Ford
- Grade
- R. R. over
- R. R. under
- Tunnel

Buildings
- School
- Church
- Station

Mines and Quarries
- Mine dump
- Pits, gravel or other

Power line

Pipeline

Cemetery

Dams

Levee

Tanks

Well, oil or gas

BOUNDARIES

- National or state
- County
- Township or range, U. S.
- Section line, corner, U. S.
- Reservation
- Land grant
- Small park, cemetery, airport

DRAINAGE

Streams
- Perennial
- Intermittent, unclassified

Canals and ditches (CANAL / DITCH)

Lakes and ponds
- Perennial
- Intermittent

Wells, water (flowing)

Springs

Marsh

Wet spot

Alluvial fan

Drainage end

RELIEF

Escarpments
- Bedrock
- Other

Prominent peak

Depressions

	Large	Small
Crossable with tillage implements		
Not crossable with tillage implements		
Contains water most of the time		

SOIL SURVEY DATA

- Soil boundary and symbol (Dx)
- Gravel
- Stones
- Rock outcrops
- Chert fragments
- Clay spot
- Sand spot
- Gumbo or scabby spot
- Made land
- Severely eroded spot
- Blowout, wind erosion
- Gully

Soil map constructed 1966 by Cartographic Division, Soil Conservation Service, USDA, from 1964 aerial photographs. Controlled mosaic based on Mississippi plane coordinate system, west zone, transverse Mercator projection, 1927 North American datum.

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 1

(1)

0 ½ Mile Scale 1:15 840 0 3000 Feet

Range, township, and section corners shown on this map are indefinite.

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 10

10

N

R. 8 E.

T. 4 N.

(Joins sheet 4)

(Joins sheet 9)

(Joins sheet 11)

(Joins sheet 16)

15 14 13 22 23 24

Bogue Chitto Church

BOGUE CHITTO RIVER

570

0 ½ Mile

Scale 1:15 840

0 3000 Feet

12

N

(Joins sheet 6)

R. 9 E.

T. 4 N.

WALTHALL COUNTY

15

14

22

23

River

Dog

Kn

(Joins sheet 11)

(Joins sheet 18)

0 ½ Mile Scale 1:15 840 0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 13

13

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

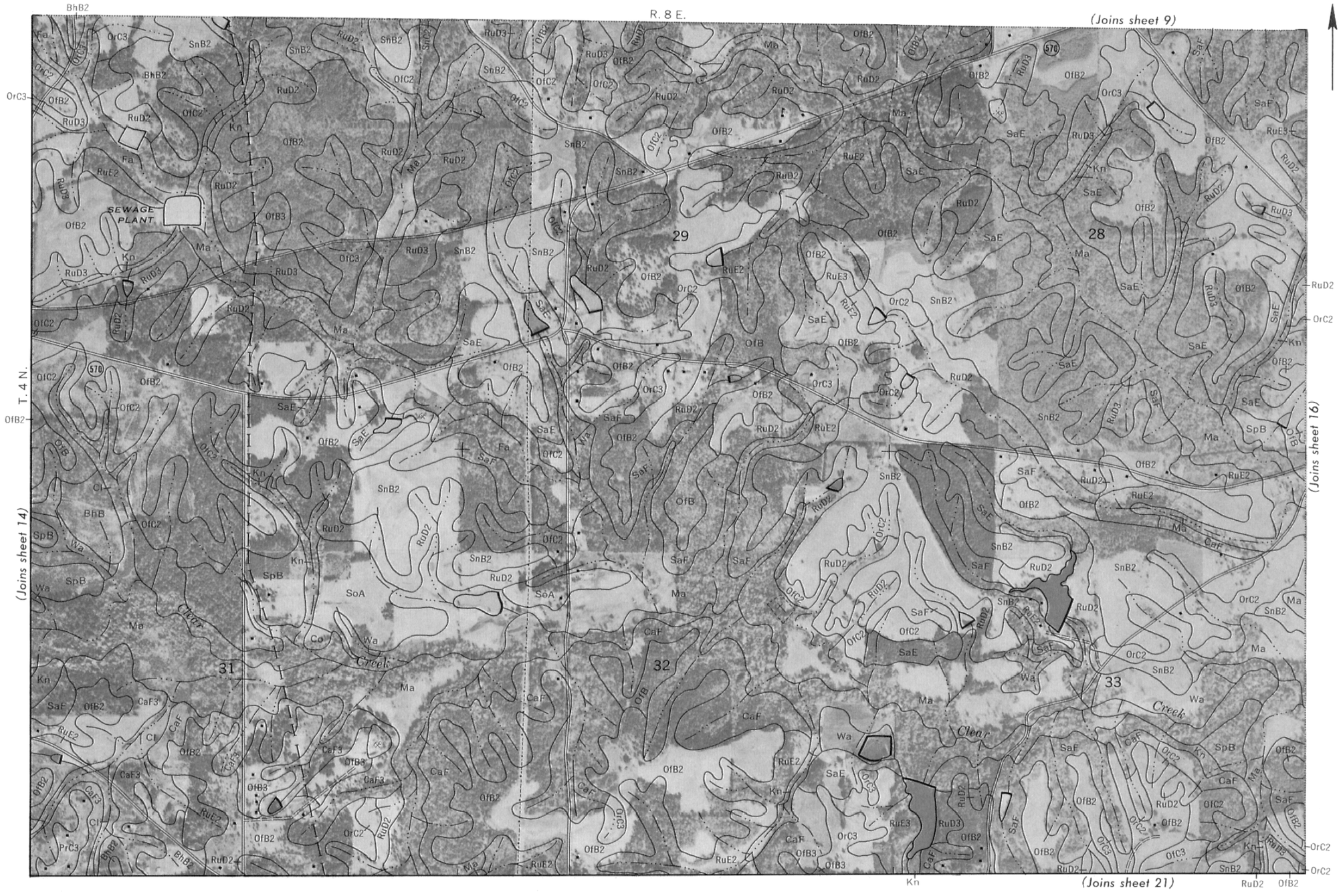
Range, township, and section corners shown on this map are indefinite.

0 ½ Mile Scale 1:15 840 0 3000 Feet

14

N

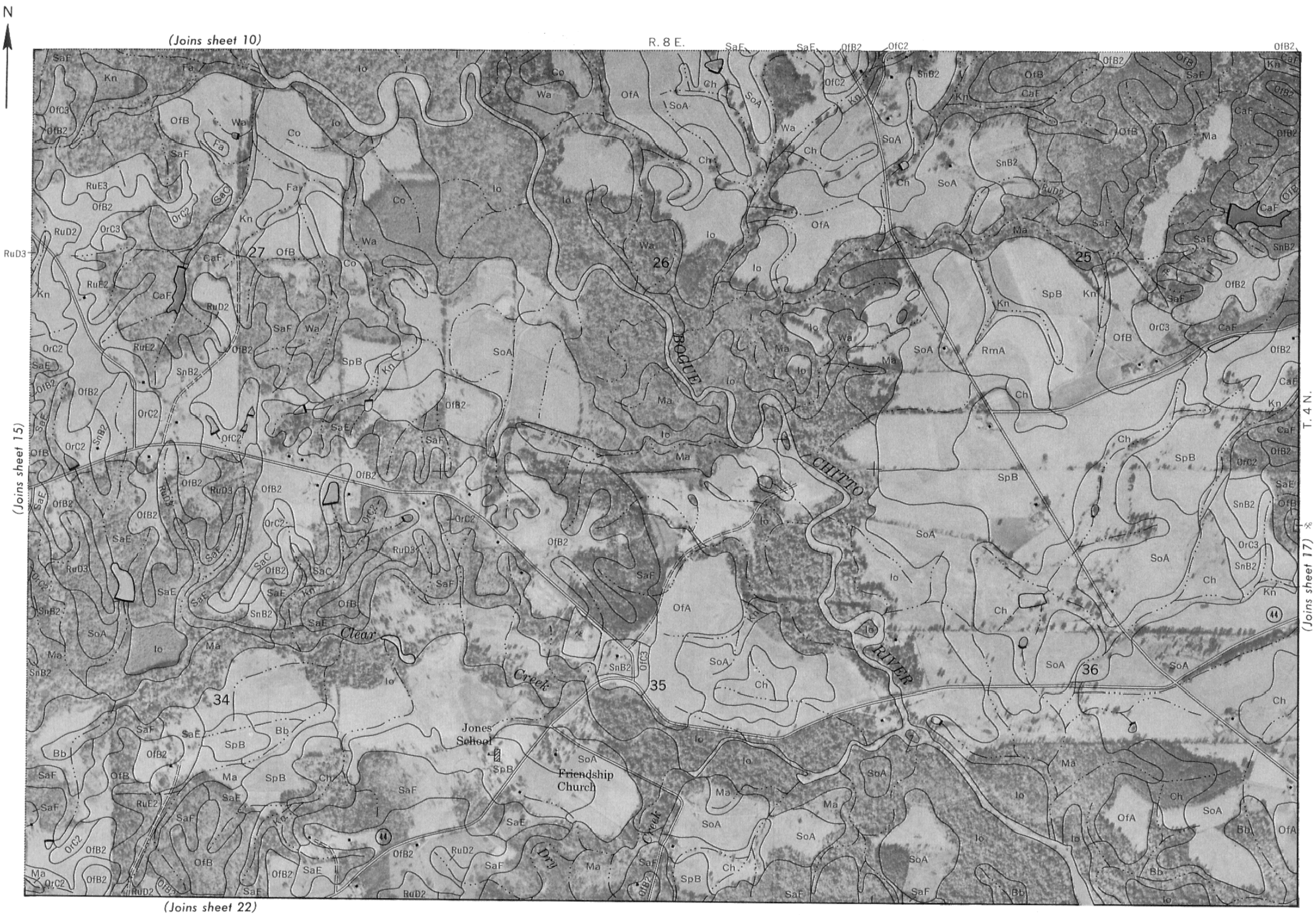
0 ½ Mile Scale 1:15 840 0 3000 Feet



0 ½ Mile Scale 1:15 840 0 3000 Feet

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

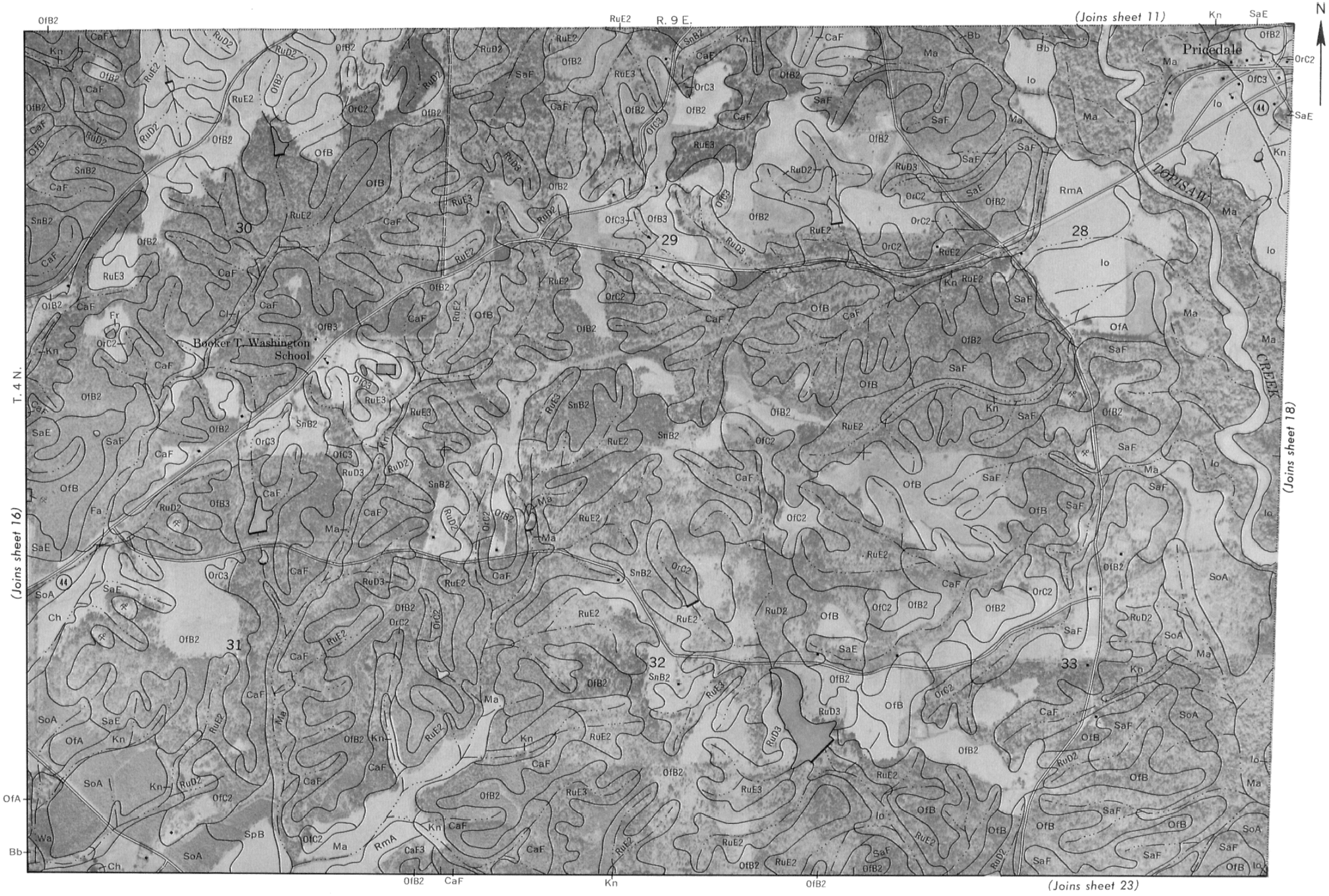

N
(Joins sheet 10)
R. 8 E.
T. 4 N.
(Joins sheet 15)
(Joins sheet 17)
(Joins sheet 22)
Bogue Chitto River
Clear Creek
Dry Creek
Jones School
Friendship Church
27
26
25
34
35
36
SaF
Kn
Fa
Io
Co
Wa
OfA
SoA
Ch
OfB
OfB2
OfC2
OfC3
SnB2
CaF
Ma
RuD2
RuD3
RuE2
RuE3
OrC2
OrC3
SaC
SaE
SpB
RmA
Bb
0
½ Mile
Scale 1:15 840
0
3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 17

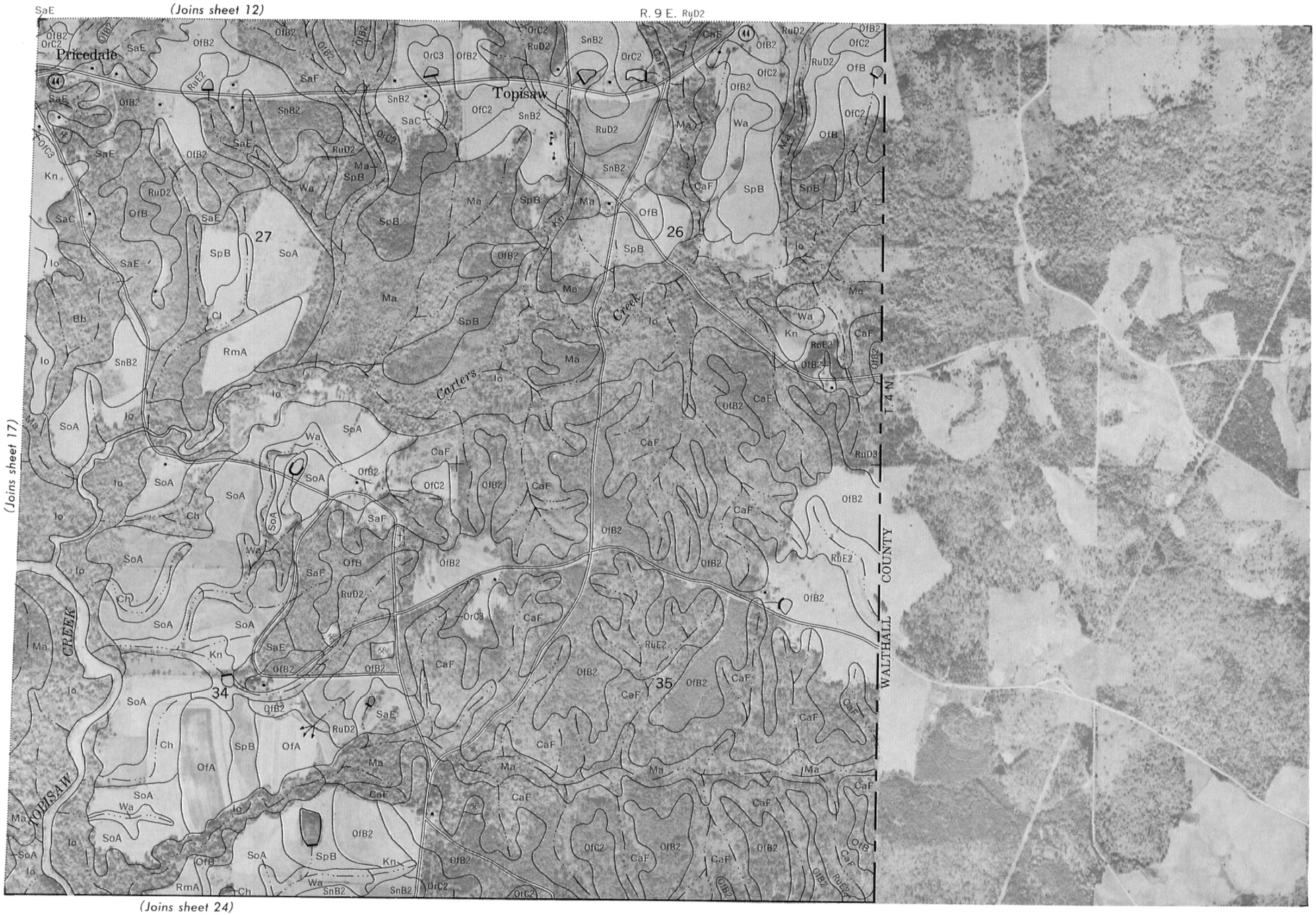
17

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.



N



0 ½ Mile Scale 1:15 840 0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 19

19

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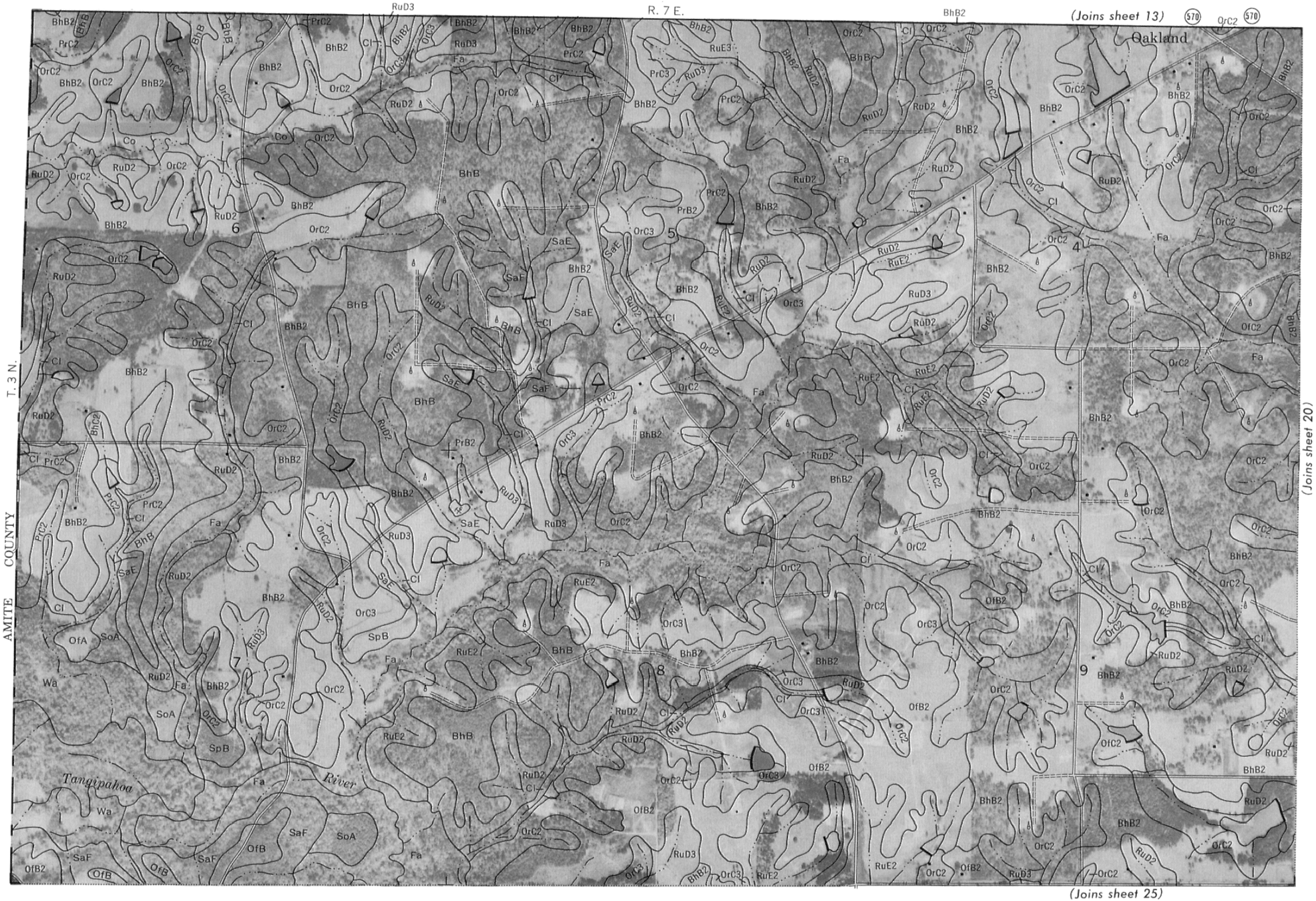
Range, township, and section corners shown on this map are indefinite.



0 ½ Mile Scale 1:15 840 0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 2

(2)

N

R. 7 E.

LINCOLN COUNTY

T. 4 N.

Johnson Station

Johnson Station School

DIXIE SPRINGS LAKE

DIXIE SPRINGS REFUGE

Beaver Creek

Clabber Creek

ILLINOIS CENTRAL

(Joins sheet 1)

(Joins sheet 3)

(Joins sheet 8)

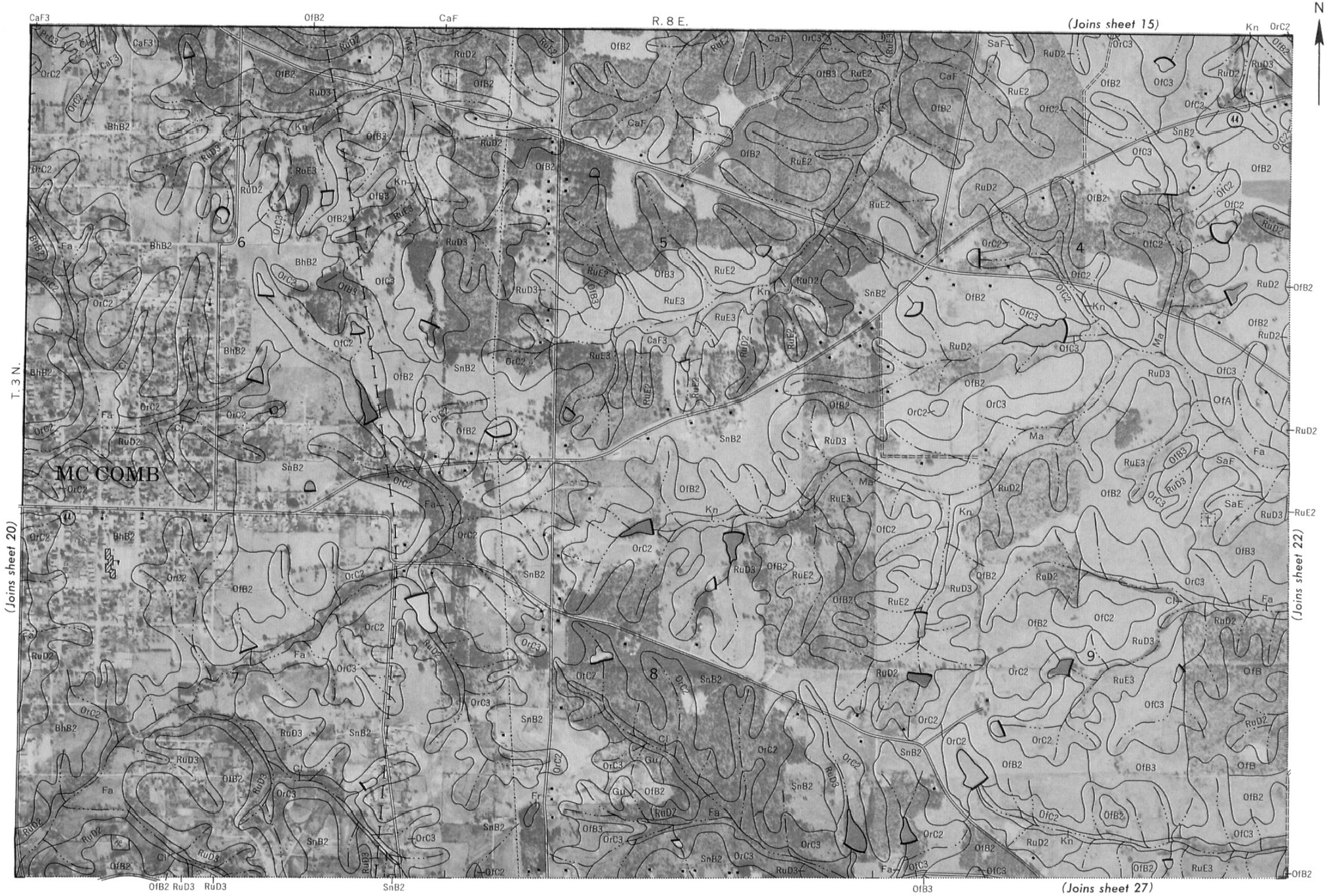
0 ½ Mile

Scale 1:15 840

0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet

Range, township, and section corners shown on this map are indefinite.



22

N

(Joins sheet 16)

R. 8 E.

T. 3 N.

(Joins sheet 21)

(Joins sheet 23)

(Joins sheet 28)

Little Rock Church

BOGUE CHITTO RIVER

Creek

0 ½ Mile

Scale 1:15 840

0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 23

23

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

R. 9 E.

(Joins sheet 17)

N

T. 3 N.

(Joins sheet 22)

(Joins sheet 24)

(Joins sheet 29)

Mars Hill Church

BOGUE CHITTO

CHITTO RIVER

0 ½ Mile

Scale 1:15 840

0 3000 Feet

(24)

N

(Joins sheet 18)

R. 9 E.

T. 3 N.

TOPISAW CREEK

WALTHALL COUNTY

(Joins sheet 23)

(Joins sheet 30)

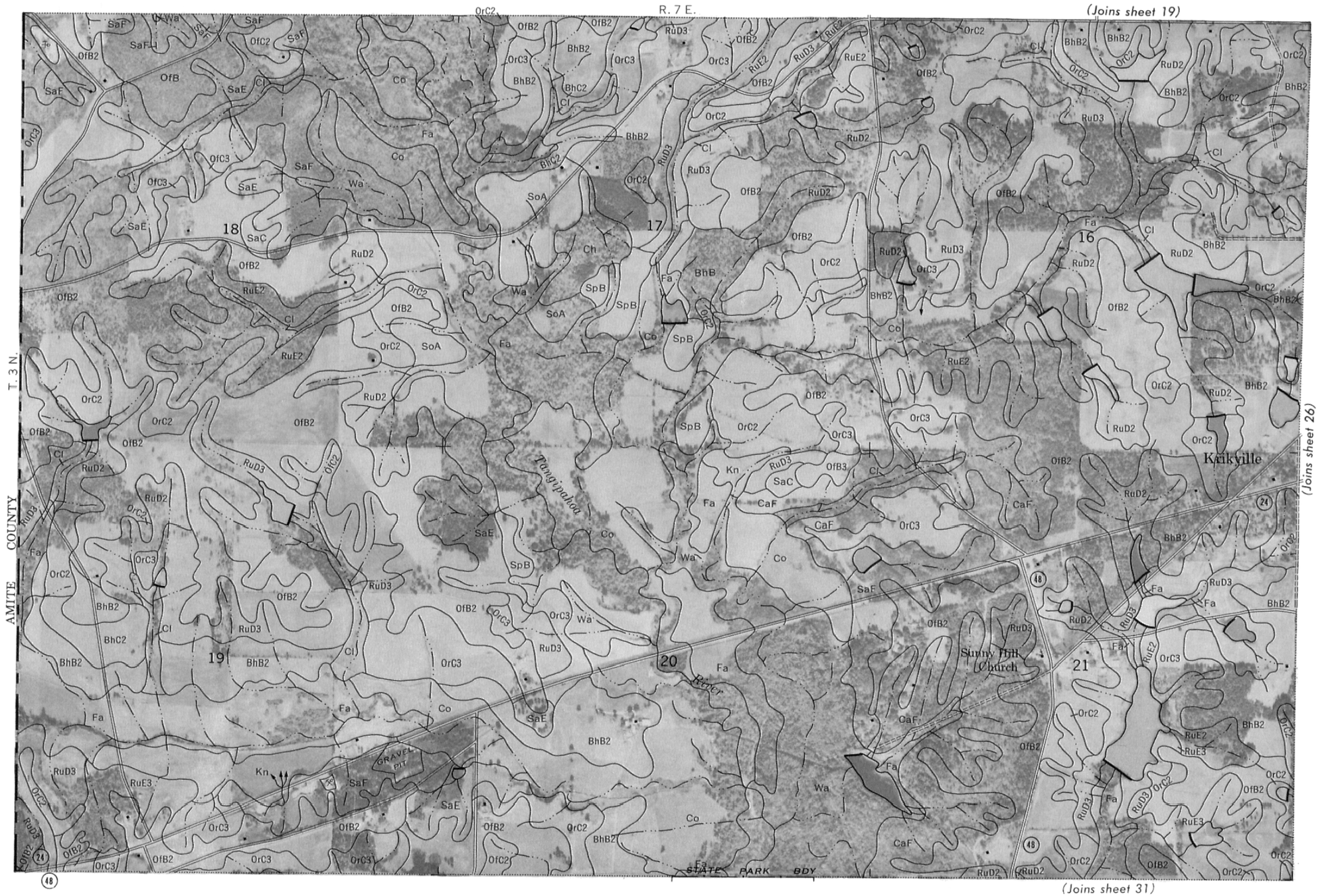
0 ½ Mile

Scale 1:15 840

0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 25

25



This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

0 ½ Mile Scale 1:15 840 0 3000 Feet

26

N

R. 7 E.

T. 3 N.

(Joins sheet 20)

(Joins sheet 25)

(Joins sheet 27)

(Joins sheet 32)

MCCOMB

Universal School

Library

MCCOMB SEWAGE LAGOON

Little Tangipahoa River

ILLINOIS CENTRAL

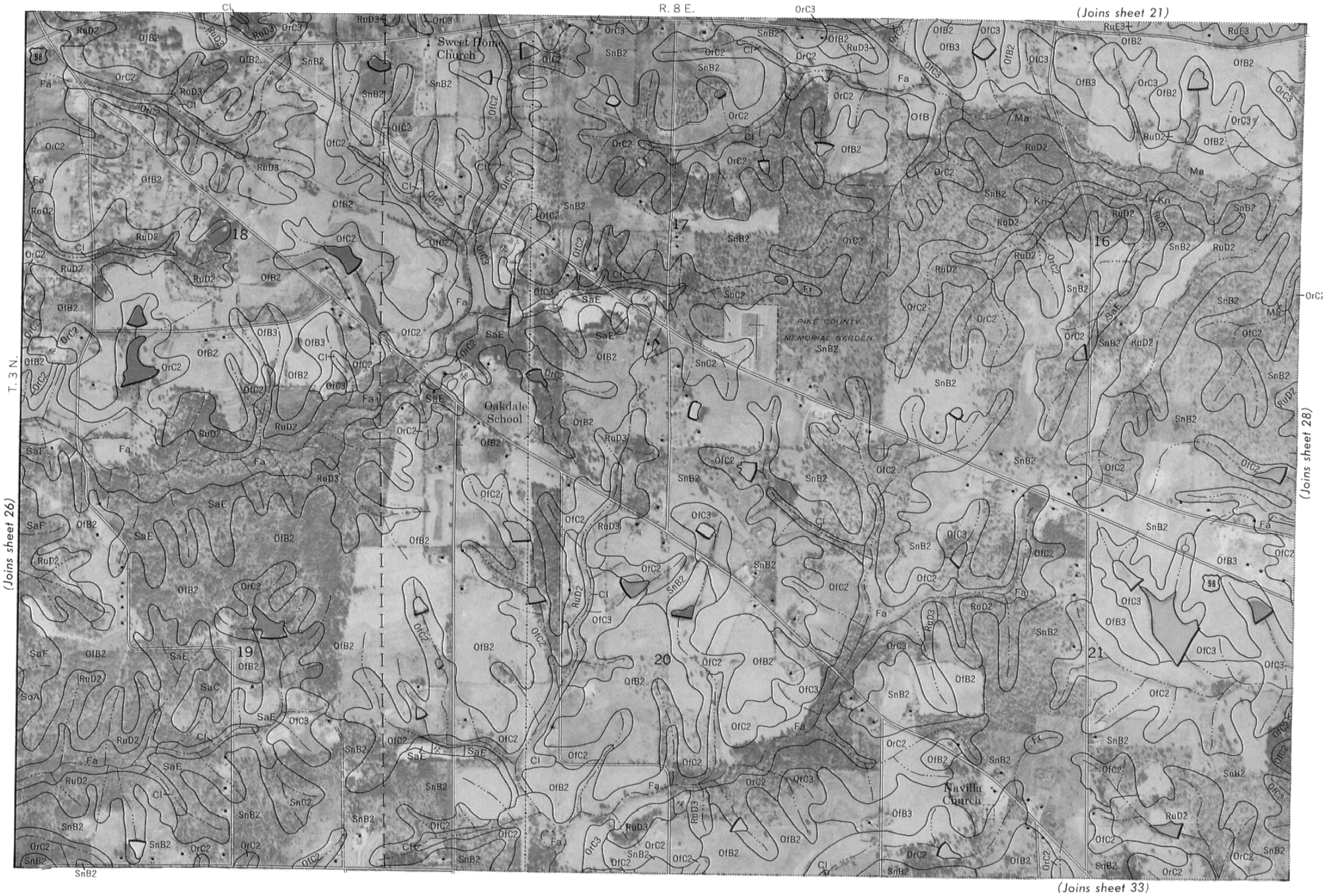
15 14 13 22 23 24

0 ½ Mile

Scale 1:15 840

0 3000 Feet

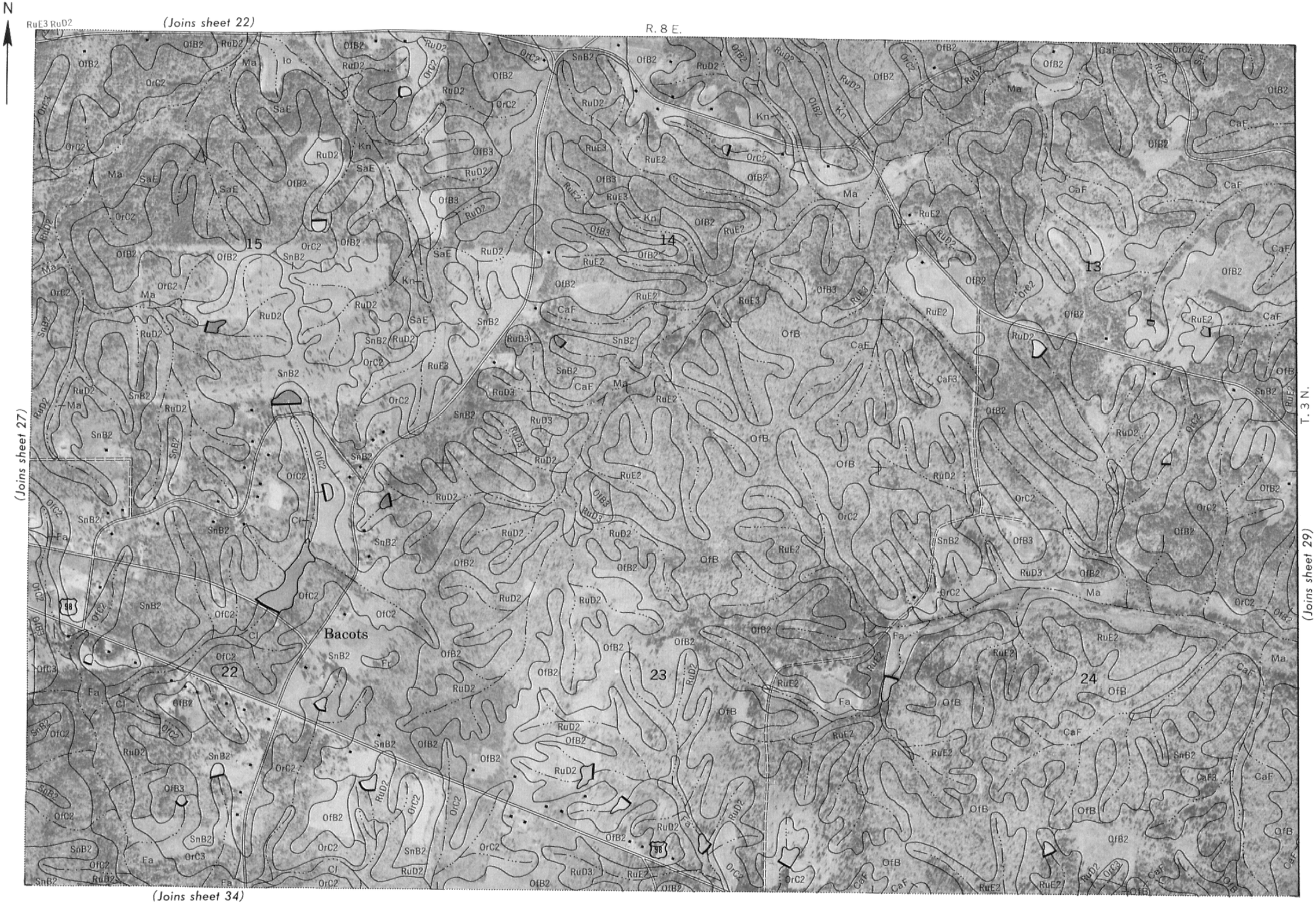
PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 27



This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 28



PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 29

0 ½ Mile Scale 1:15 840 0 3000 Feet

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 3

3

N

LINCOLN COUNTY

R. 8 E.

T. 4 N.

(Joins sheet 2)

(Joins sheet 4)

(Joins sheet 9)

Bogue Creek

Beaver Ch Creek

Clubber Creek

Chatto Creek

Lauzau Creek

Pearl River

0 ½ Mile

Scale 1:15 840

0 3000 Feet

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite

30

N

(Joins sheet 24)

R. 9 E.

T. 3 N.

WALTHALL COUNTY

TOPISAW CREEK

15 14 22 23

(Joins sheet 29)

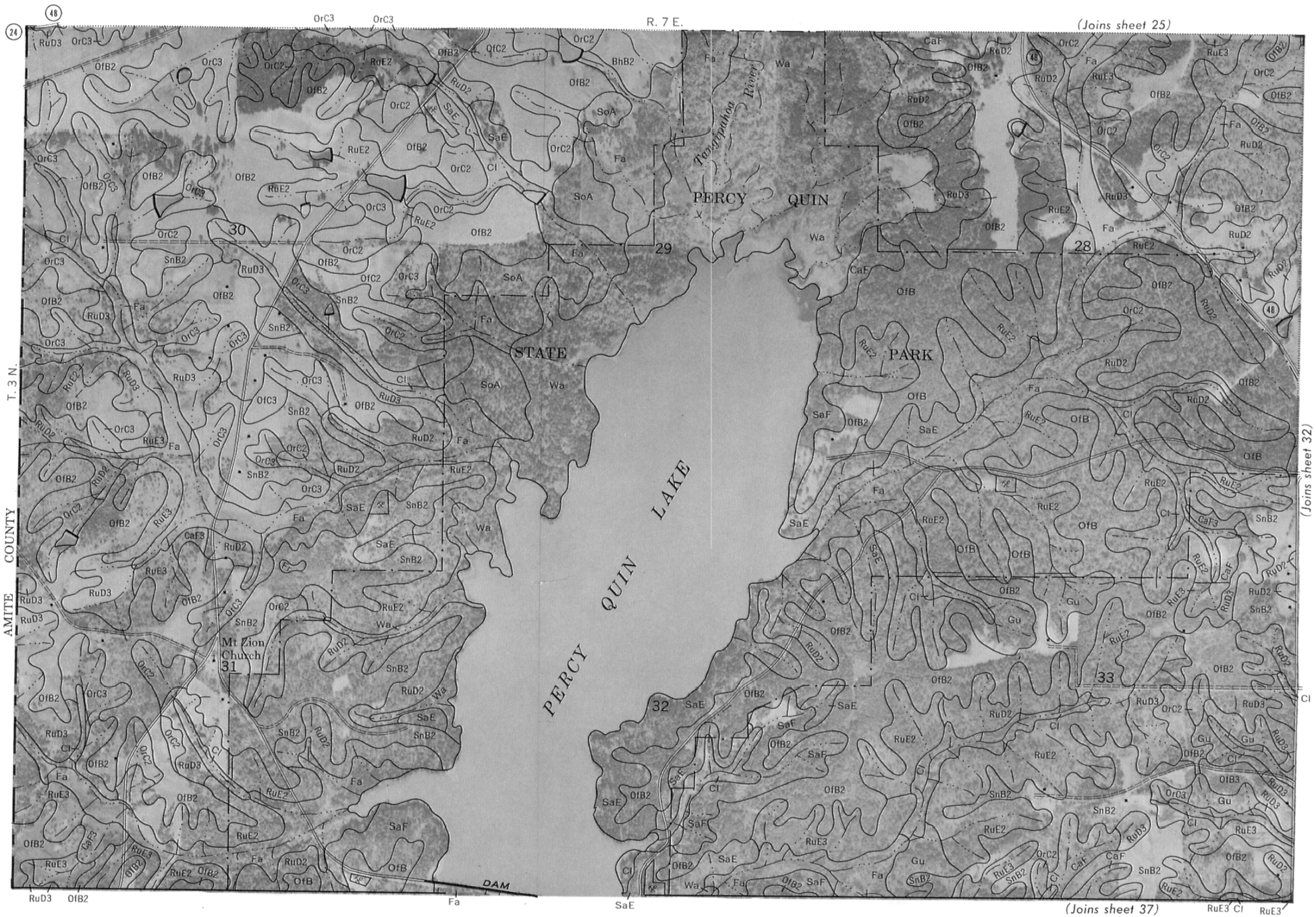
(Joins sheet 36)

0 ½ Mile

Scale 1:15 840

0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 31



0 ½ Mile Scale 1:15 840 0 3000 Feet

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Range, township, and section corners shown on this map are indefinite.

N

(Joins sheet 26)

R. 7 E.

T. 3 N.

(Joins sheet 31)

(Joins sheet 33)

(Joins sheet 38)

PIKE COUNTY FAIR GROUNDS

FERNWOOD

Little Tangipahoa River

Mineral Creek

Mineral Creek

PARK BOY

27

26

25

34

35

36

½ Mile

Scale 1:15 840

3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 33

0 ½ Mile Scale 1:15 840 0 3000 Feet

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

N

(Joins sheet 28)

R. 8 E.

T. 3 N.

(Joins sheet 33)

(Joins sheet 35)

(Joins sheet 40)

Martin

Jennings

Martin Creek

Love Creek

FERNWOOD

COLUMBIA

GULF

AND

27

26

25

34

35

36

0 ½ Mile Scale 1:15 840 0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 35

35

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

R. 9 E.

(Joins sheet 29)

N

T. 3 N.

(Joins sheet 34)

(Joins sheet 36)

(Joins sheet 41)

Stella

Beardens

Barto

BOGUE CHITTO RIVER

FERNWOOD

COLUMBIA AND GULF

Bare Branch

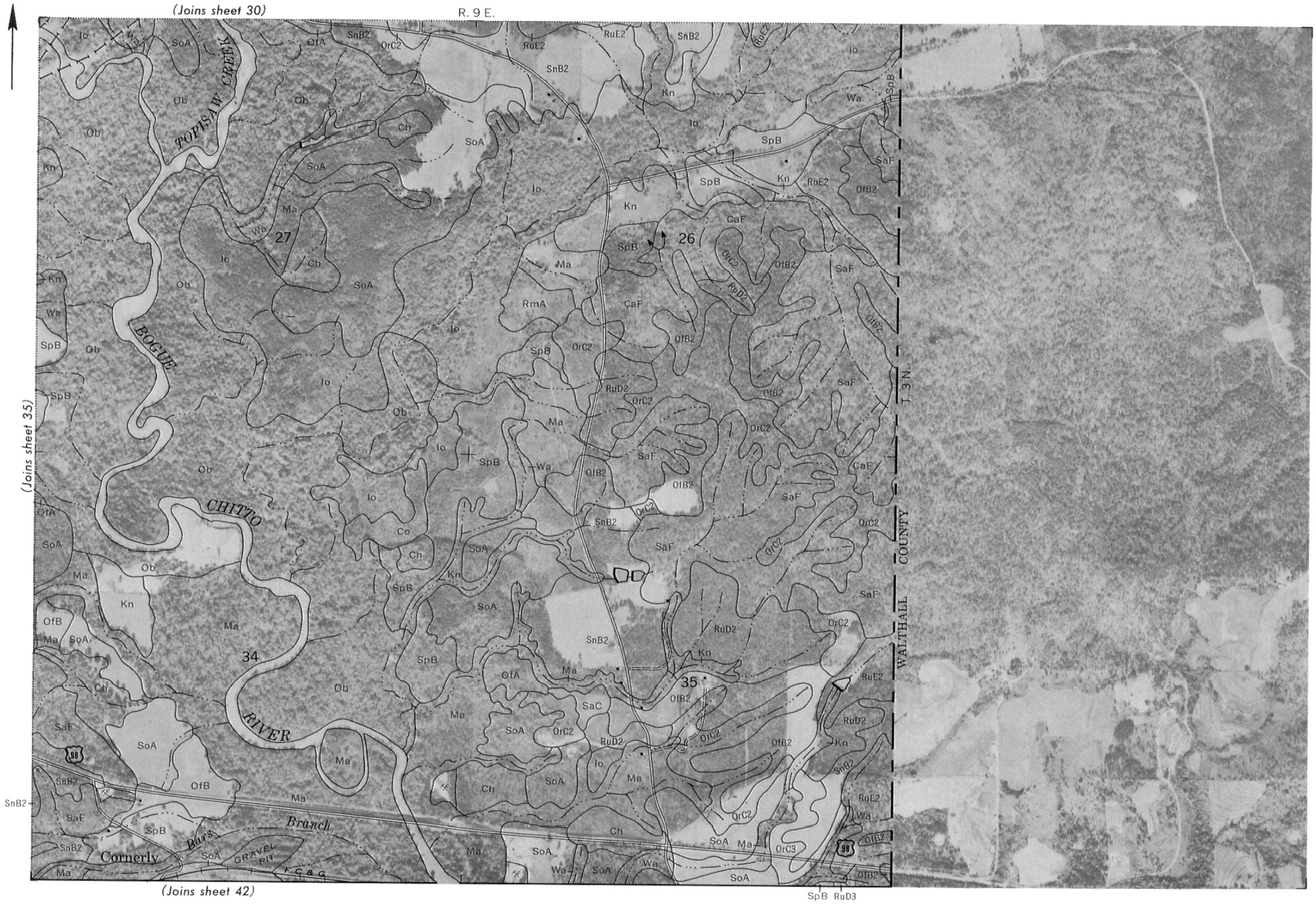
30 29 28 31 32 33

0 ½ Mile

Scale 1:15 840

0 3000 Feet

N

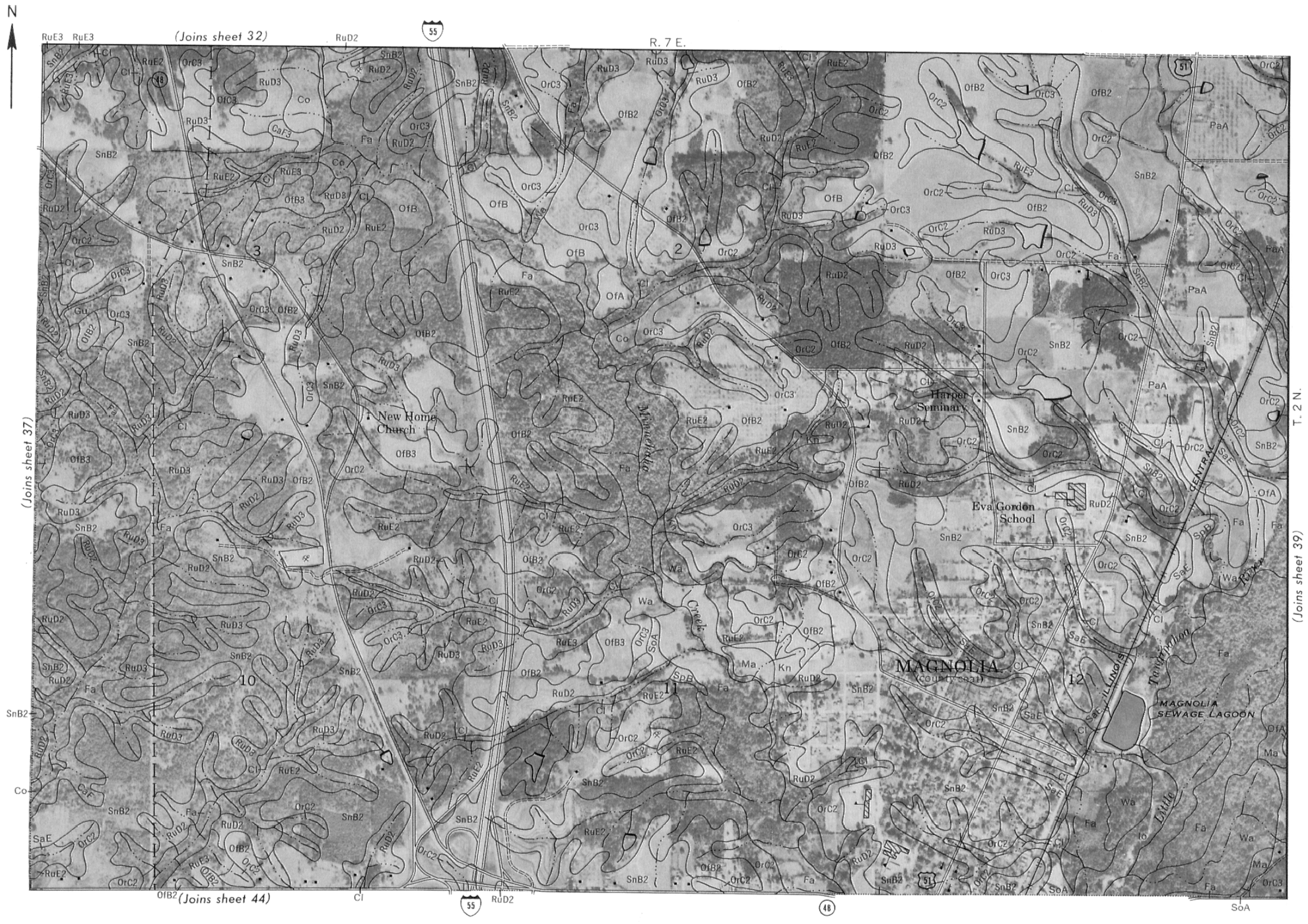


0 ½ Mile Scale 1:15 840 0 3000 Feet

Range, township, and section corners shown on this map are indefinite.

0 ½ Mile Scale 1:15 840 0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 38



0 ½ Mile Scale 1:15 840 0 3000 Feet

Range, township, and section corners shown on this map are indefinite.

0 ½ Mile Scale 1:15 840 0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 4

4

N

R. 8 E.

LINCOLN COUNTY

T. 4 N.

(Joins sheet 3)

(Joins sheet 5)

(Joins sheet 10)

0 ½ Mile

Scale 1:15 840

0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 40

N

T. 2 N.

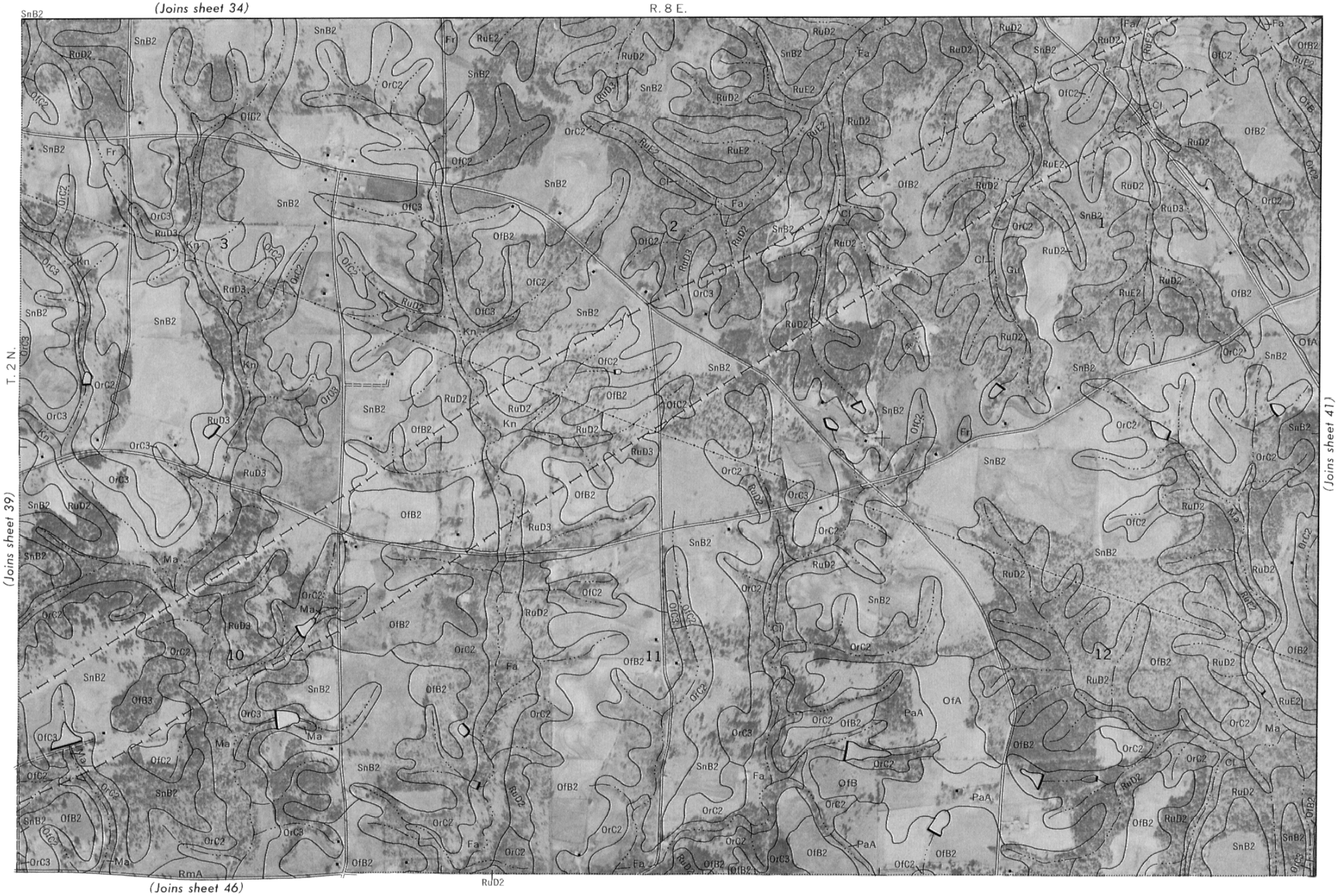
R. 8 E.

(Joins sheet 34)

(Joins sheet 39)

(Joins sheet 41)

(Joins sheet 46)

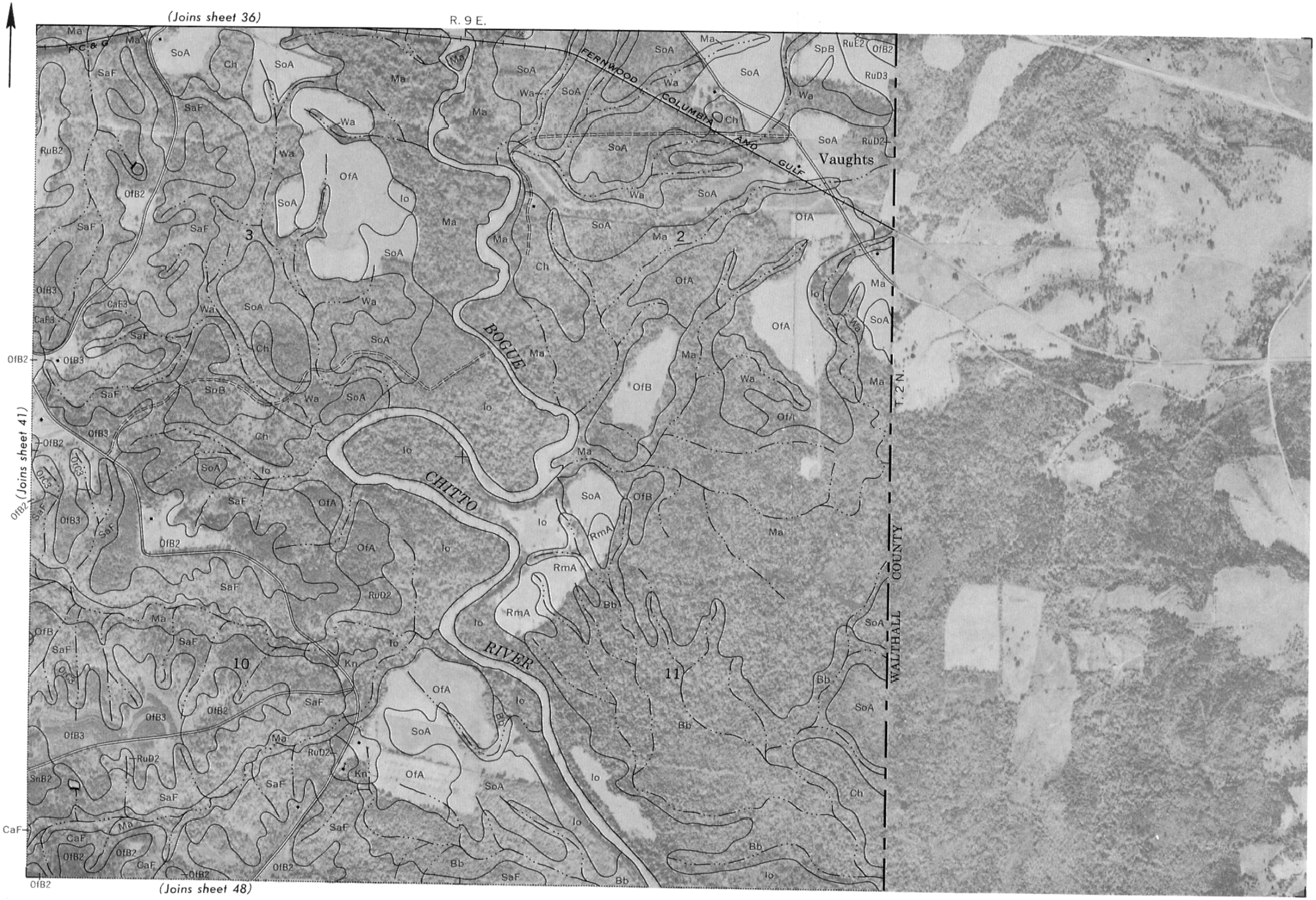


0 ½ Mile

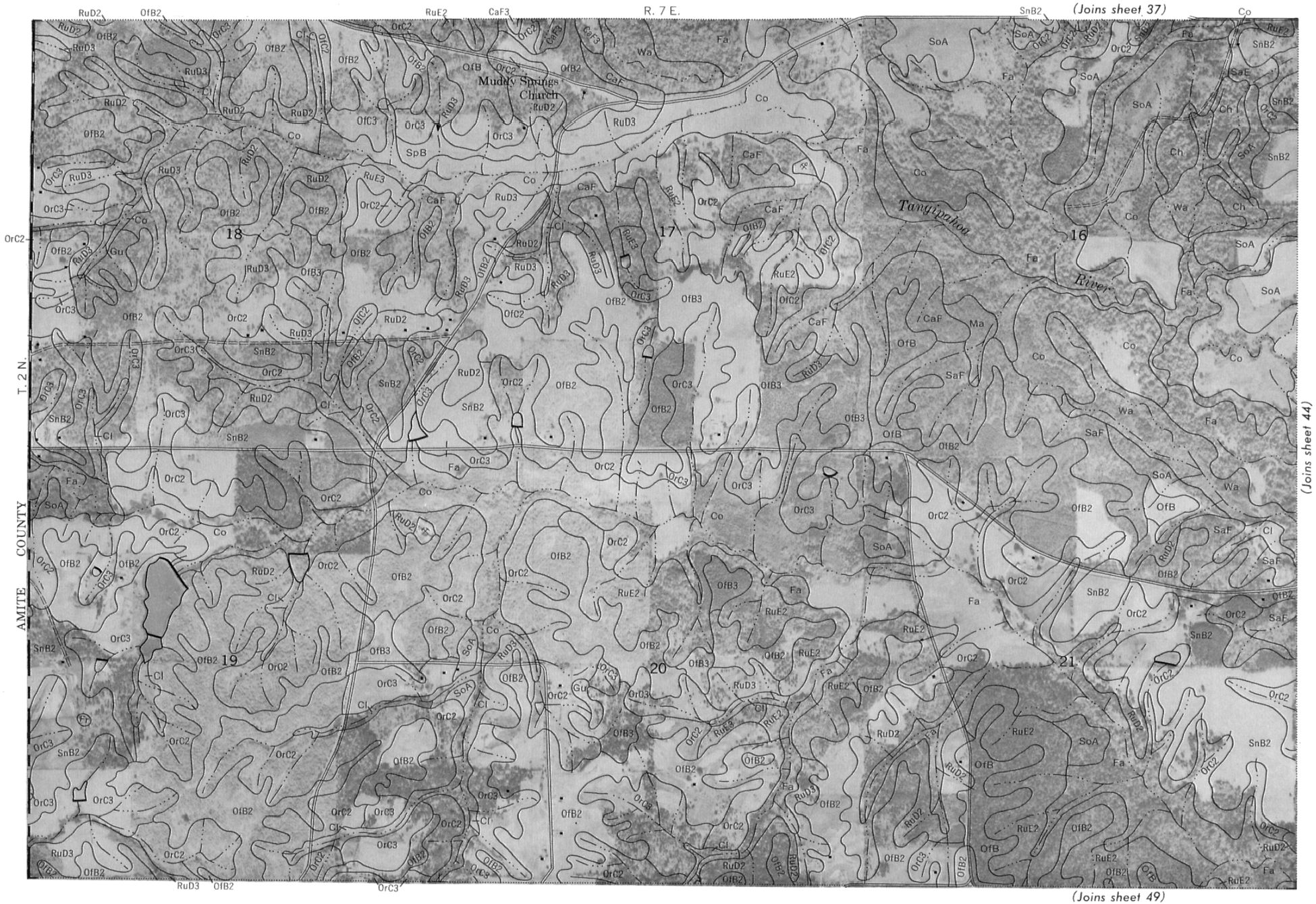
Scale 1:15 840

0 3000 Feet

Range, township, and section corners shown on this map are indefinite.


N
(Joins sheet 36)
R. 9 E.
T. 2 N.
FERNWOOD
COLUMBIA
AMO
GULF
Vaughts
BOGUE
CHITTO
RIVER
WALTHALL COUNTY
(Joins sheet 41)
(Joins sheet 48)
1
2
3
10
11
Ma
SoA
Ch
SaF
Wa
OfA
Io
OfB2
OfB3
CaF3
RuB2
RuD2
RuE2
SpB
OfB
RmA
Bb
Kn
SnB2
CaF
0 ½ Mile
Scale 1:15 840
0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 43



Scale 1:15 840

0 ½ Mile

0 3000 Feet

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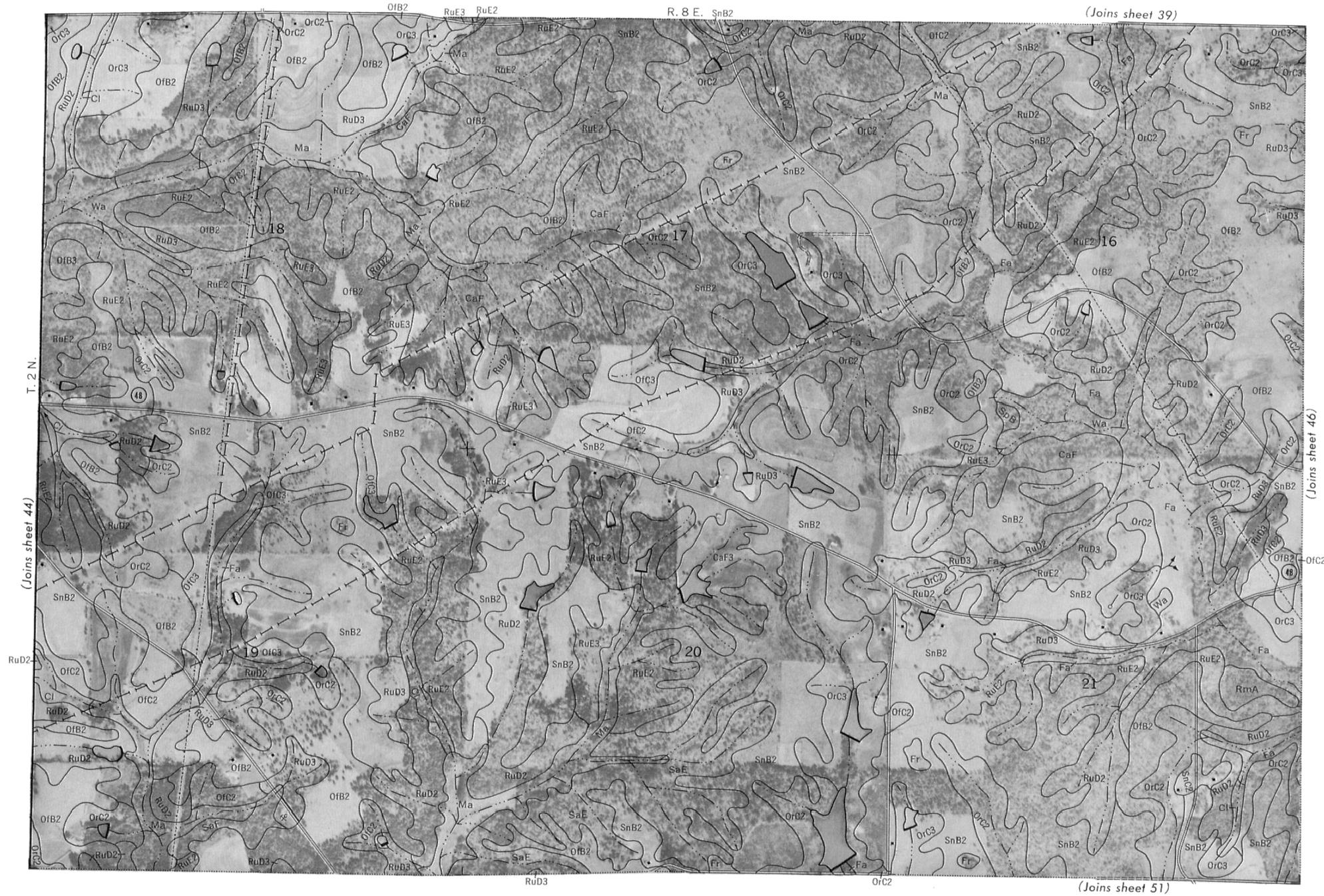
0 ½ Mile Scale 1:15 840 0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 45



0 ½ Mile Scale 1:15 840 0 3000 Feet

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

N

R. 8 E.

T. 2 N.

(Joins sheet 40)

(Joins sheet 45)

(Joins sheet 47)

(Joins sheet 52)

15 14 13 22 23 24

Baw Chukfa Creek

0 ½ Mile

Scale 1:15 840

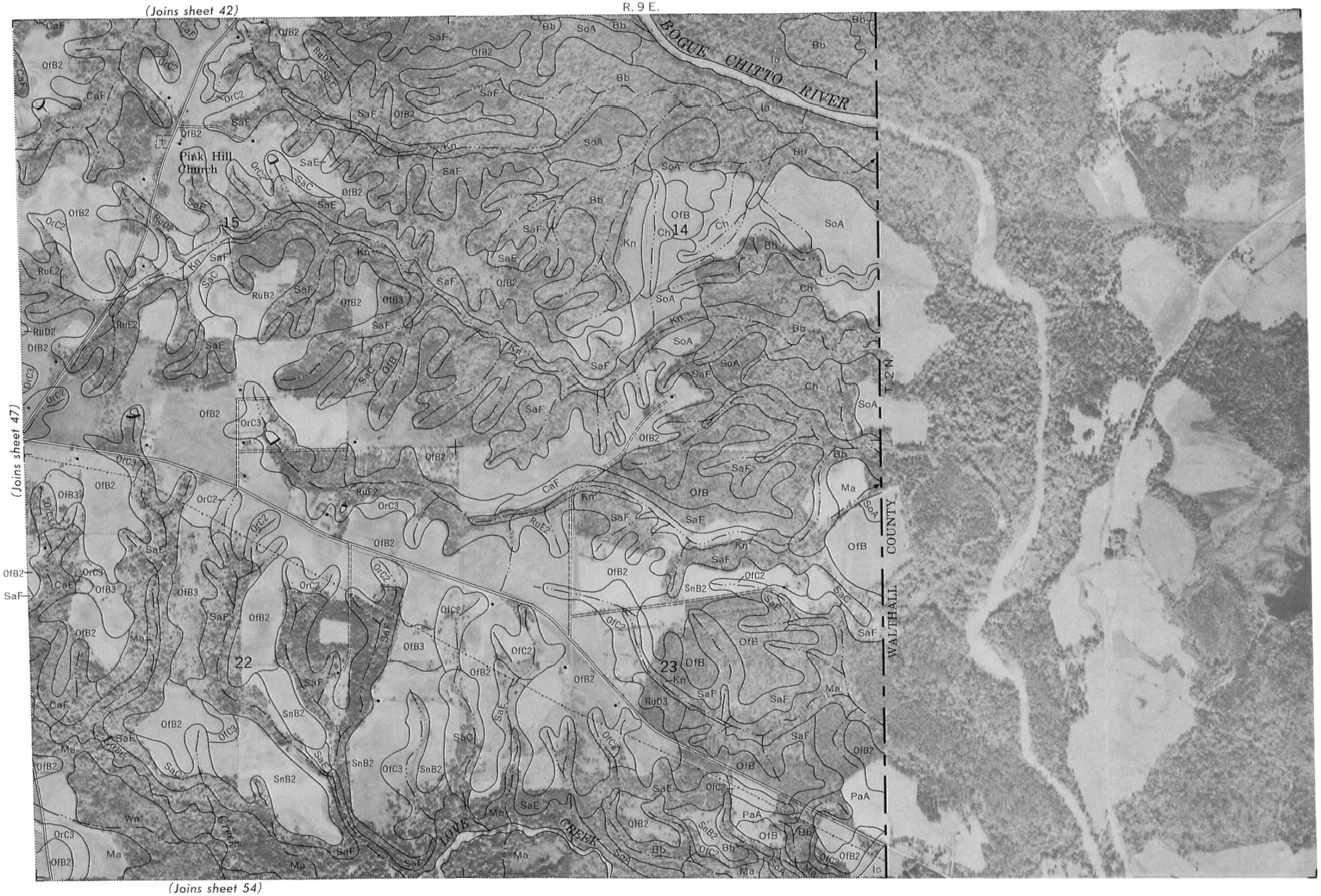
0 3000 Feet

Range, township, and section corners shown on this map are indefinite.

0 ½ Mile Scale 1:15 840 0 3000 Feet

48

N



0 ½ Mile Scale 1:15 840 0 3000 Feet

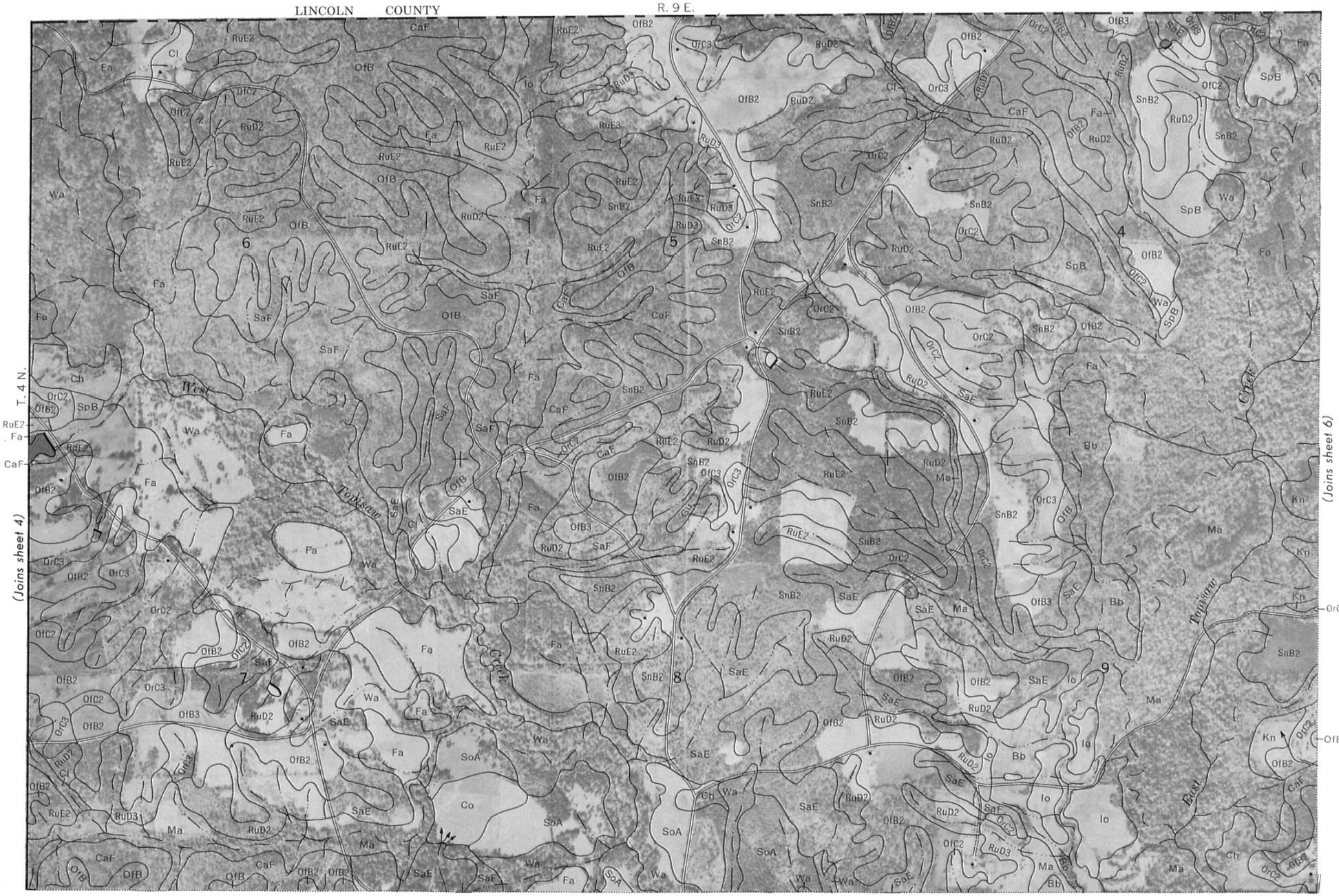
Range, township, and section corners shown on this map are indefinite.

0 ½ Mile

Scale 1:15 840

0 3000 Feet

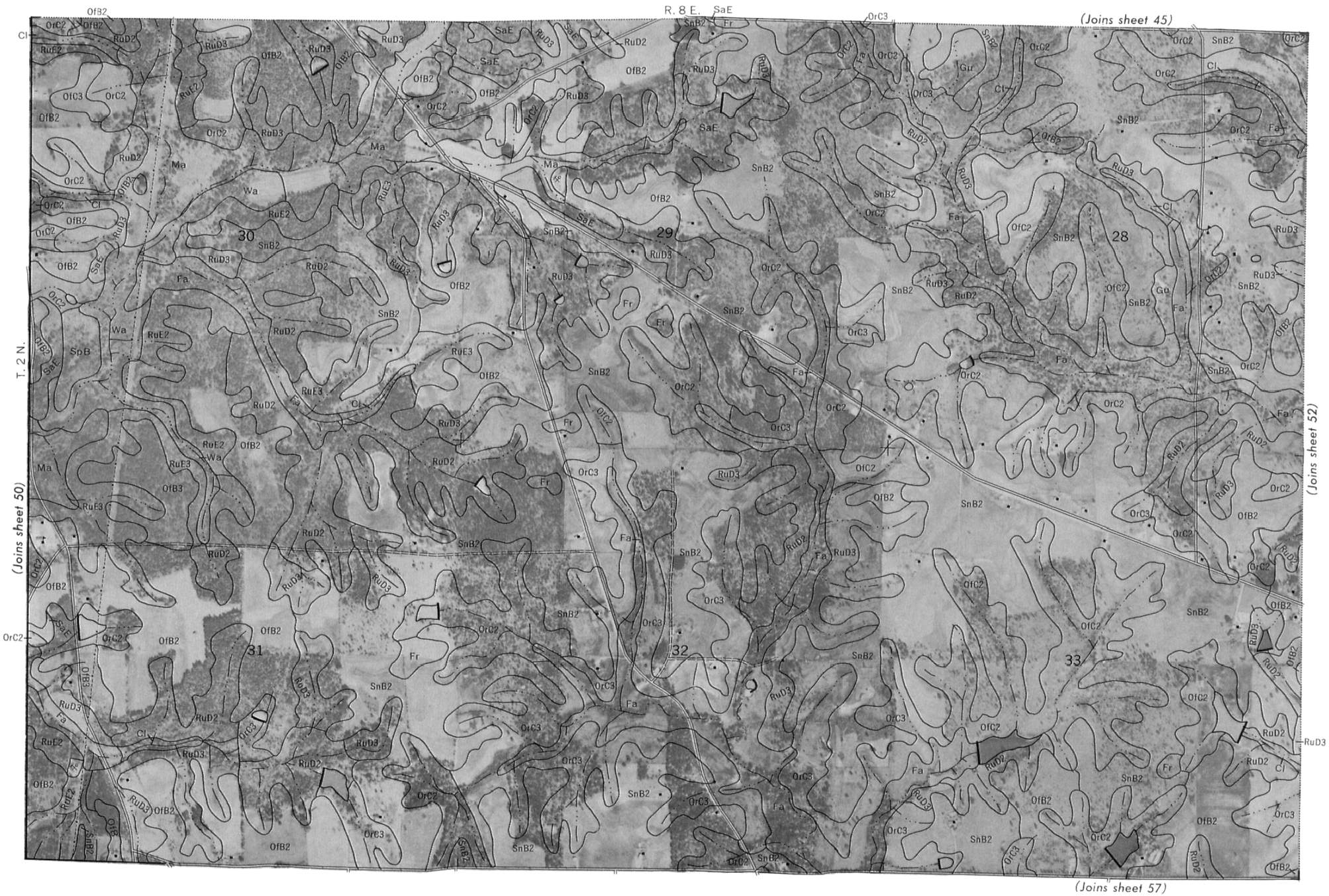
Range, township, and section corners shown on this map are indefinite.




N
(Joins sheet 44)
R. 7 E.
T. 2 N.
(Joins sheet 49)
(Joins sheet 51)
(Joins sheet 56)
CENTRAL
ILLINOIS
Little Tangipahoa River
Tangipahoa
Lake
27
26
25
34
35
36
55
51
568
Fa
Wa
Co
Ma
Kn
SaF
SaC
SaE
OfB
OfB2
OfC2
OrC2
OrC3
RuD2
RuD3
RuE2
SnB2
SoA
SpB
CaF
Cl
0
½ Mile
Scale 1:15 840
0
3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 51

51



This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

N

(Joins sheet 46)

R. 8 E.

T. 2 N.

(Joins sheet 51)

(Joins sheet 53)

(Joins sheet 58)

Bala Chitto Church

Buff Spring Church

Bala Chitto Creek

Scale 1:15 840

0 ½ Mile

0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 53

53

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

0 ½ Mile

Scale 1:15 840

0 3000 Feet

54

N

(Joins sheet 48)

R. 9 E.

T. 2 N.

WALTHALL COUNTY

Dykes Crossing

(Joins sheet 53)

(Joins sheet 60)

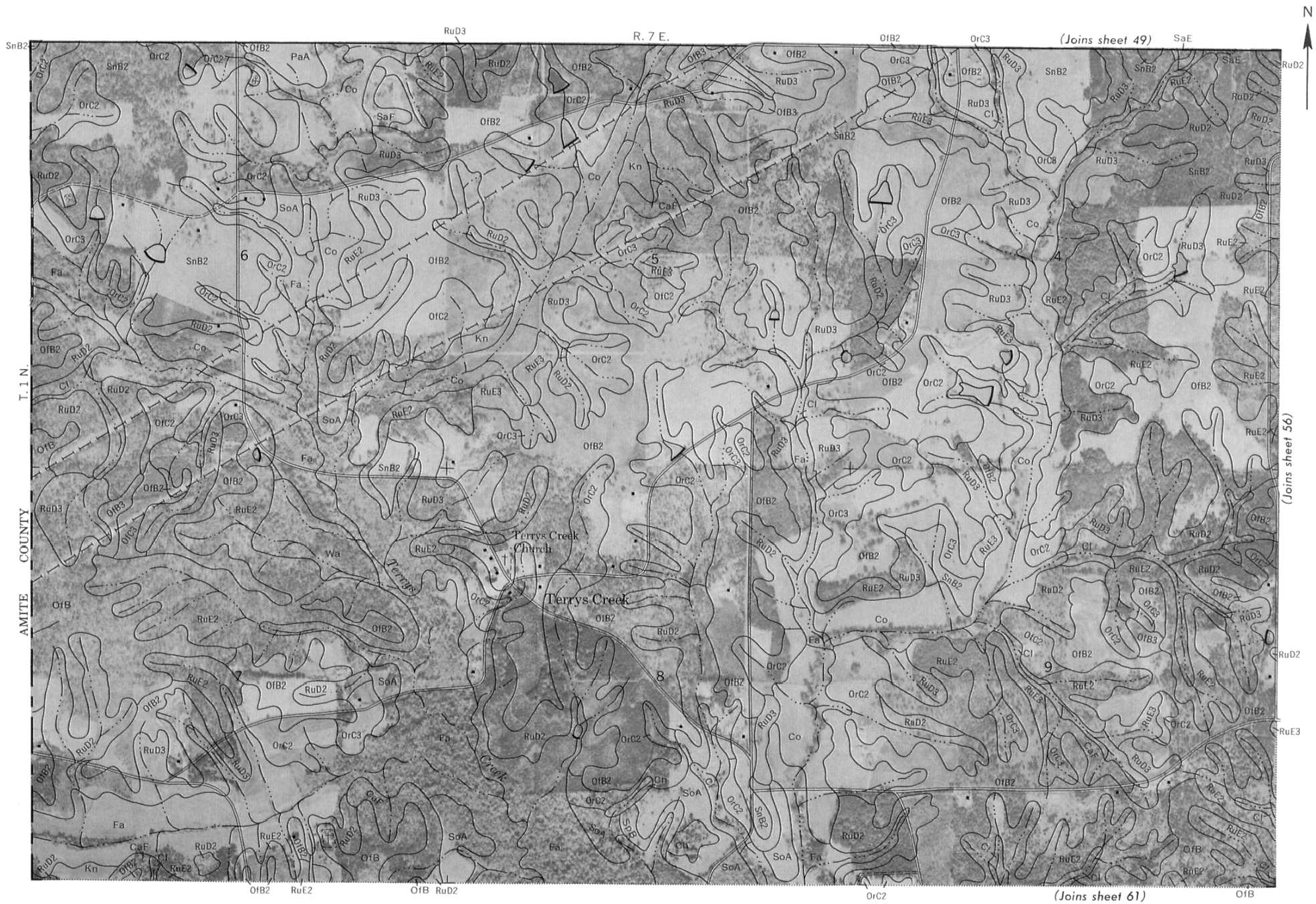
0 ½ Mile Scale 1:15 840 0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 55

55

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.



0 ½ Mile Scale 1:15 840 0 3000 Feet

56

N

R. 7 E.

T. 1 N.

(Joins sheet 50)

(Joins sheet 55)

(Joins sheet 57)

(Joins sheet 62)

CENTRAL

ILLINOIS

Tangipahoa River

Chatawa

0 ½ Mile

Scale 1:15 840

0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 57

57

R. 8 E.

T. 1 N.

(Joins sheet 51)

(Joins sheet 56)

(Joins sheet 58)

(Joins sheet 63)

N

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

0 ½ Mile

Scale 1:15 840

0 3000 Feet

58

N

(Joins sheet 52)

R. 8 E.

T. 1 N.

(Joins sheet 57)

(Joins sheet 59)

(Joins sheet 64)

Emerald

Creek

Chitto

Balu

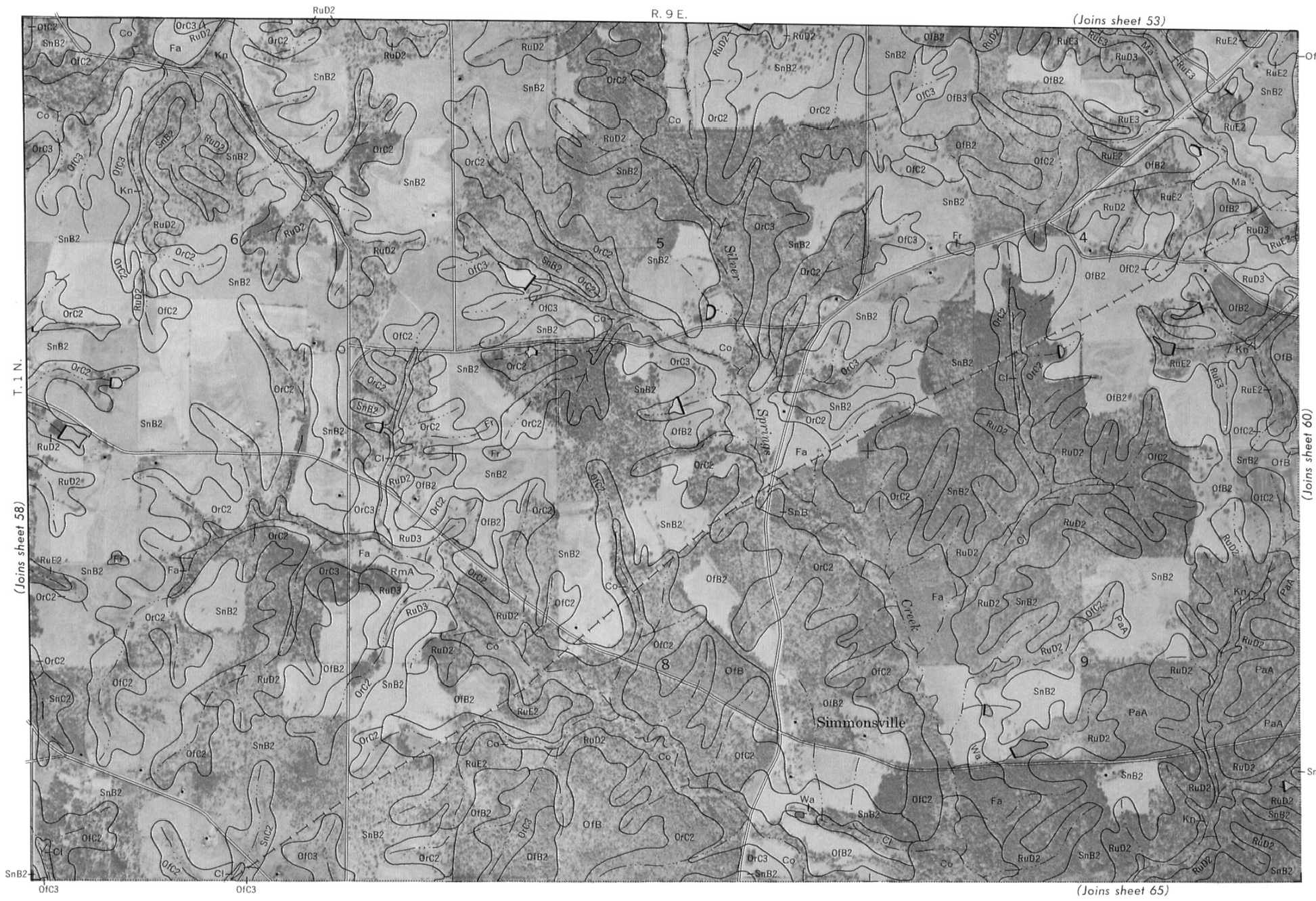
0 ½ Mile

Scale 1:15 840

0 3000 Feet

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.



6

N

R. 9 E.

LINCOLN COUNTY

WALTHALL COUNTY

T. 4 N.

Topisaw Creek

East Fa

3

2

10

11

Wa Fa CaF RuD2 RuE2 OfB2 OrC2 OfC3 RuE3 OfC2 RuD3 SpB Co Cl SaE SnB2 PaA OfB OfB3 SaF Kn Ma Pr Ry Dog River

(Joins sheet 5)

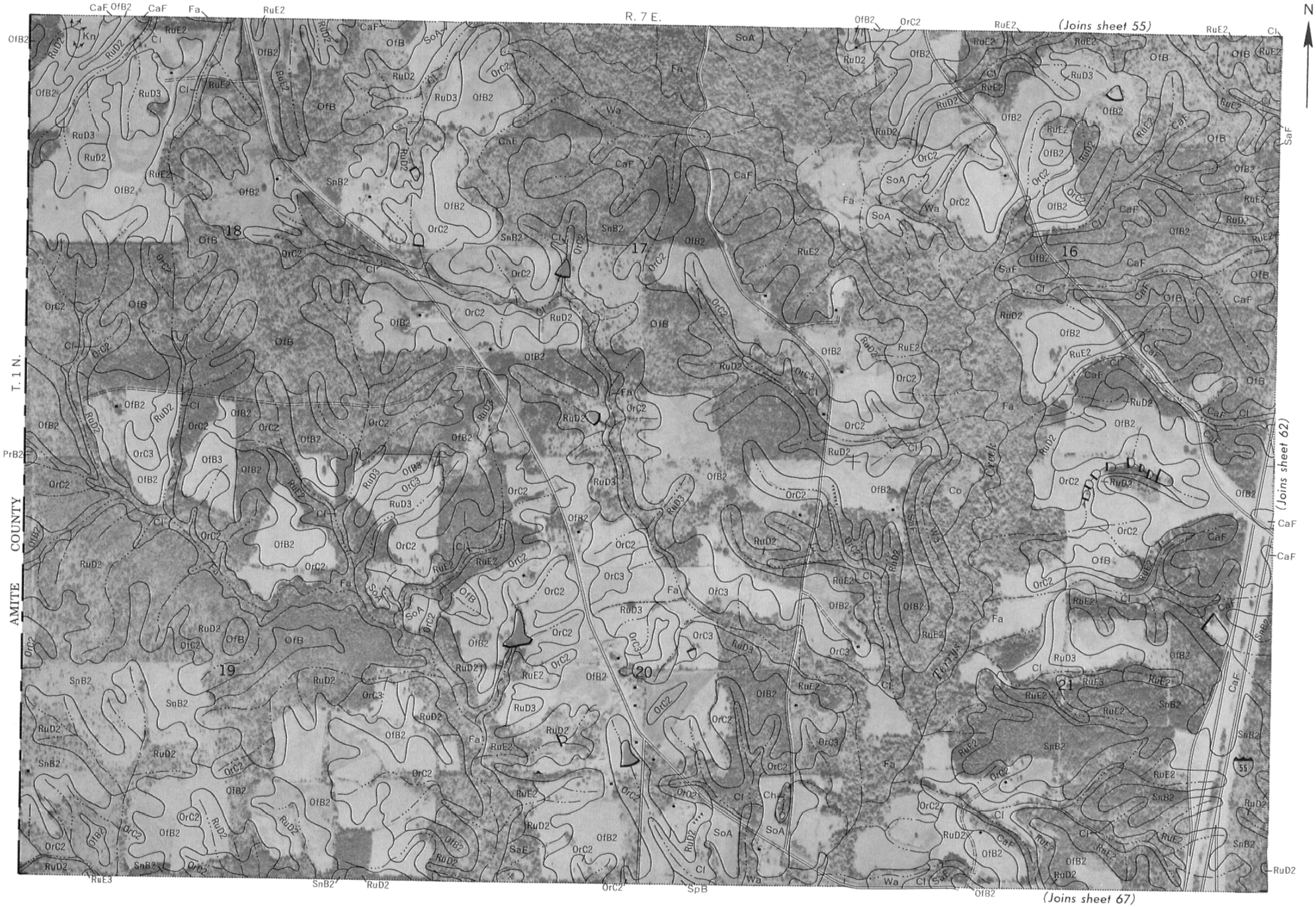
(Joins sheet 12)

0 ½ Mile Scale 1:15 840 0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 61

61



This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

62

N

R. 7 E.

T. 1 N.

(Joins sheet 56)

(Joins sheet 61)

(Joins sheet 63)

(Joins sheet 68)

St Mary of the Pines School

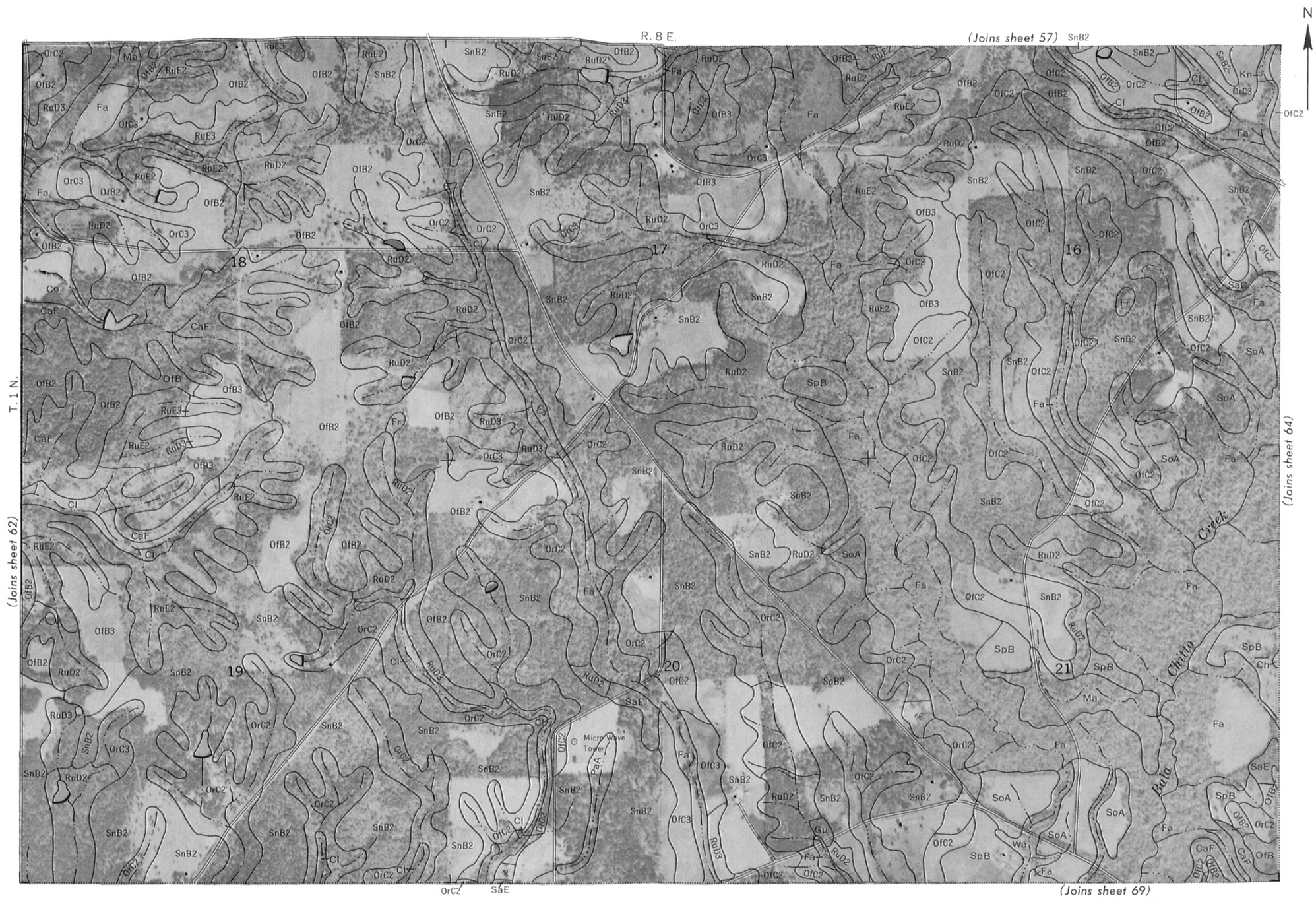
ILLINOIS CENTRAL

Tangipahoa River

0 ½ Mile

Scale 1:15 840

0 3000 Feet



0 ½ Mile Scale 1:15 840 0 3000 Feet

64

N

(Joins sheet 58)

R. 8 E.

T. 1 N.

(Joins sheet 63)

(Joins sheet 65)

(Joins sheet 70)

15

14

13

22

23

24

Creek

Chitto

Bala

PUMPING STATION

Gladhurst

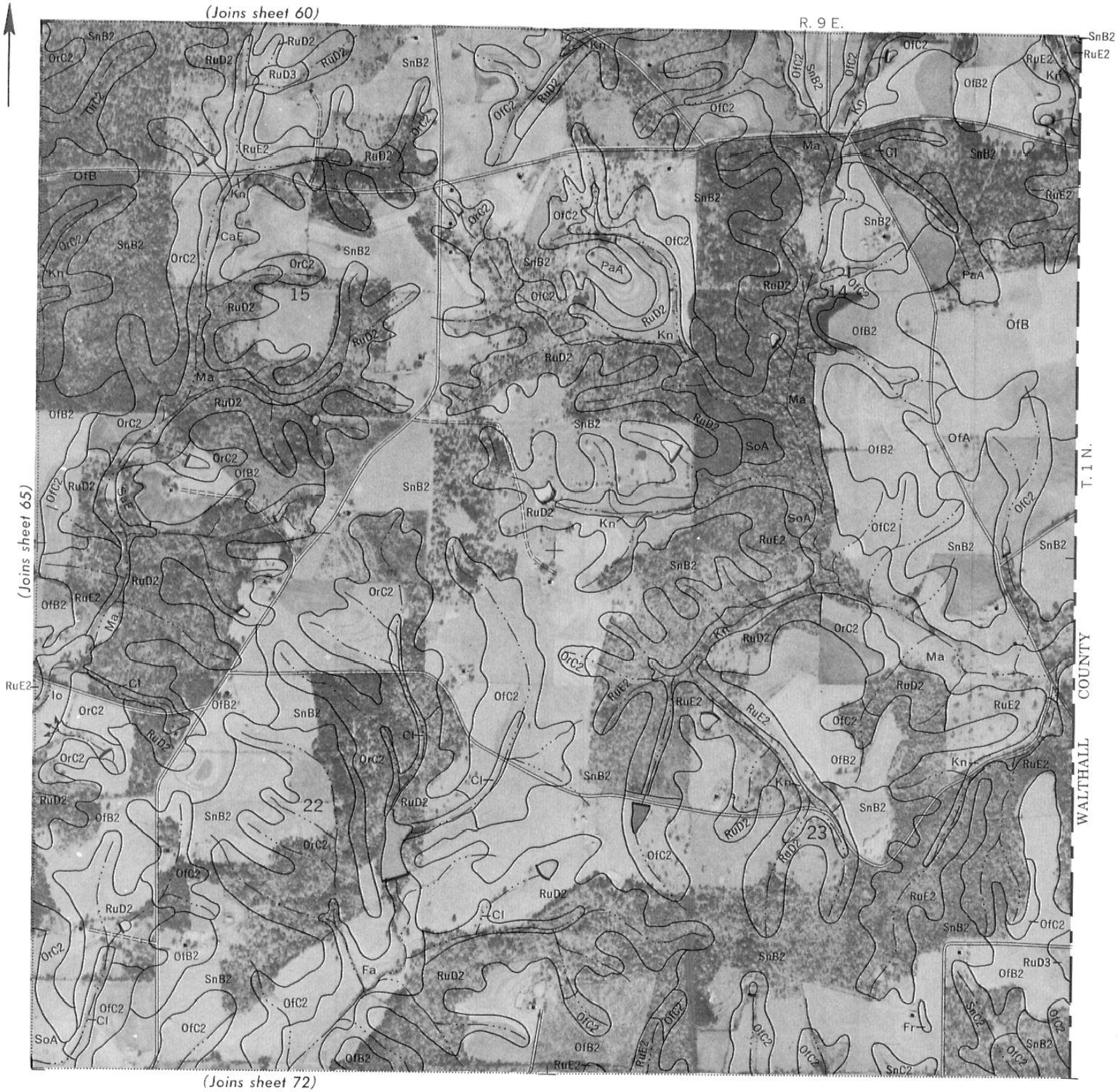
0 ½ Mile

Scale 1:15 840

0 3000 Feet

0 ½ Mile Scale 1:15 840 0 3000 Feet

N



0 ½ Mile

Scale 1:15 840

0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 67

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

(68)

N

0 ½ Mile Scale 1:15 840 0 3000 Feet

Range, township, and section corners shown on this map are indefinite.

0 ½ Mile Scale 1:15 840 0 3000 Feet

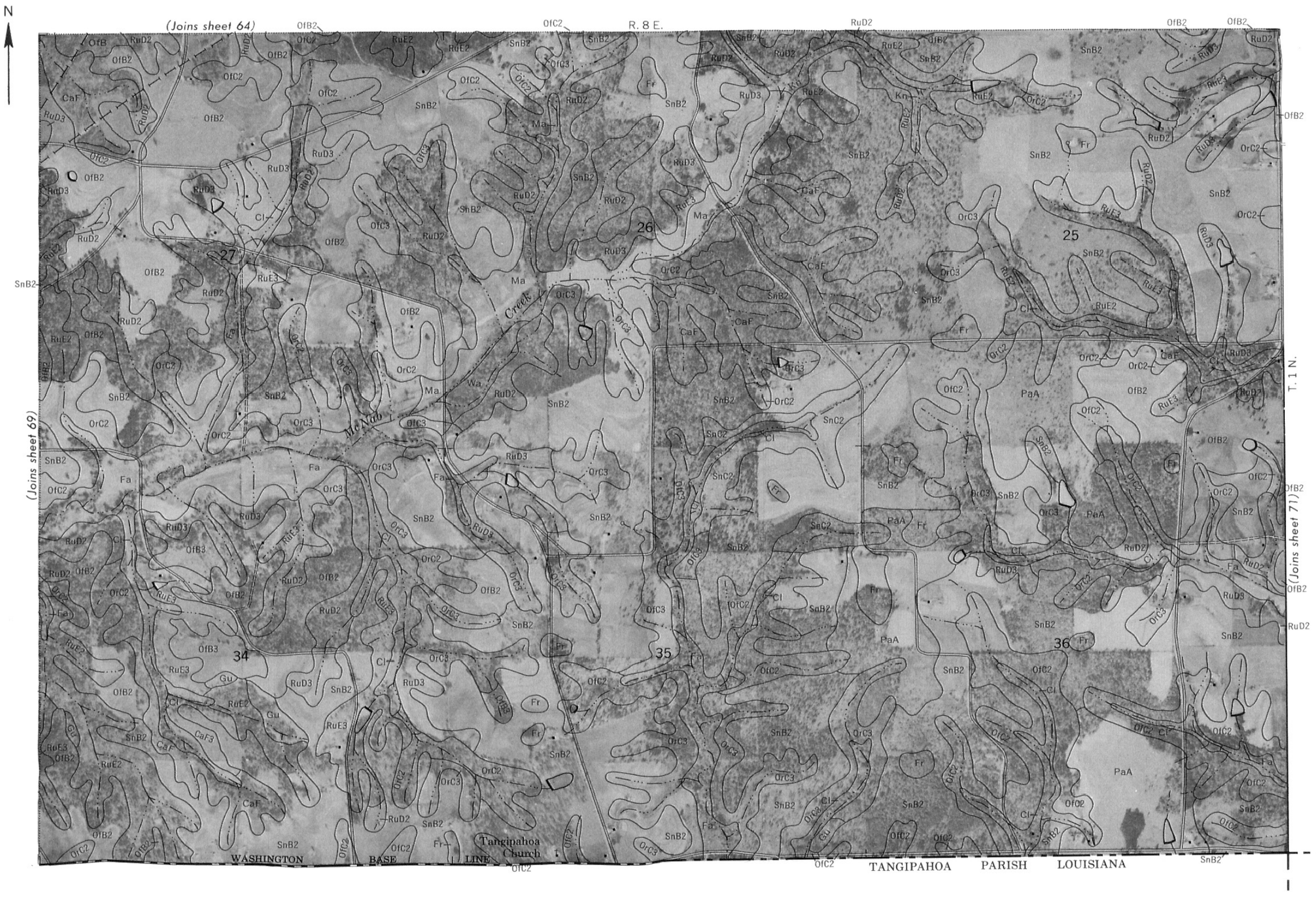
PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 7

7

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

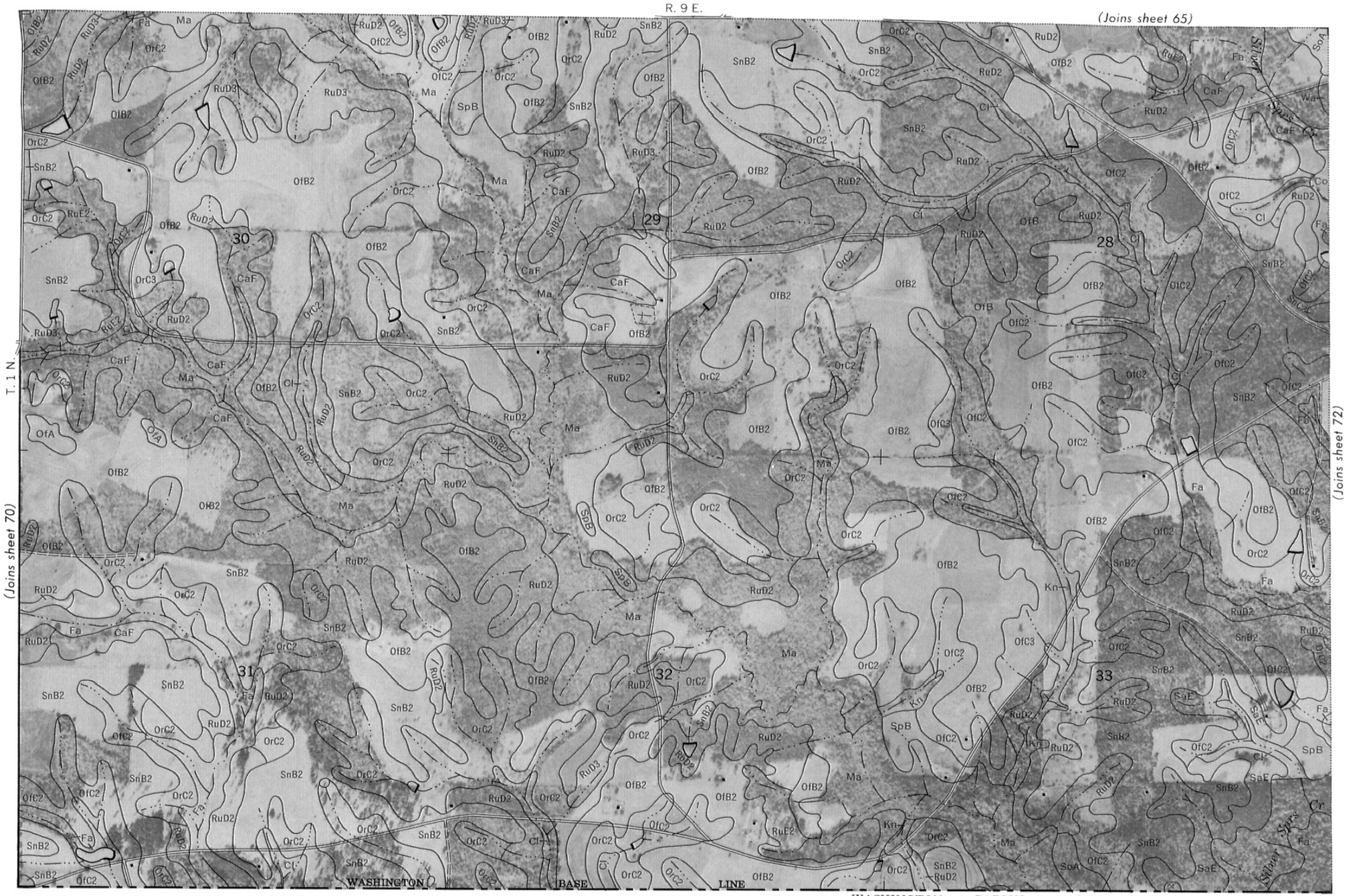
0 ½ Mile Scale 1:15 840 0 3000 Feet



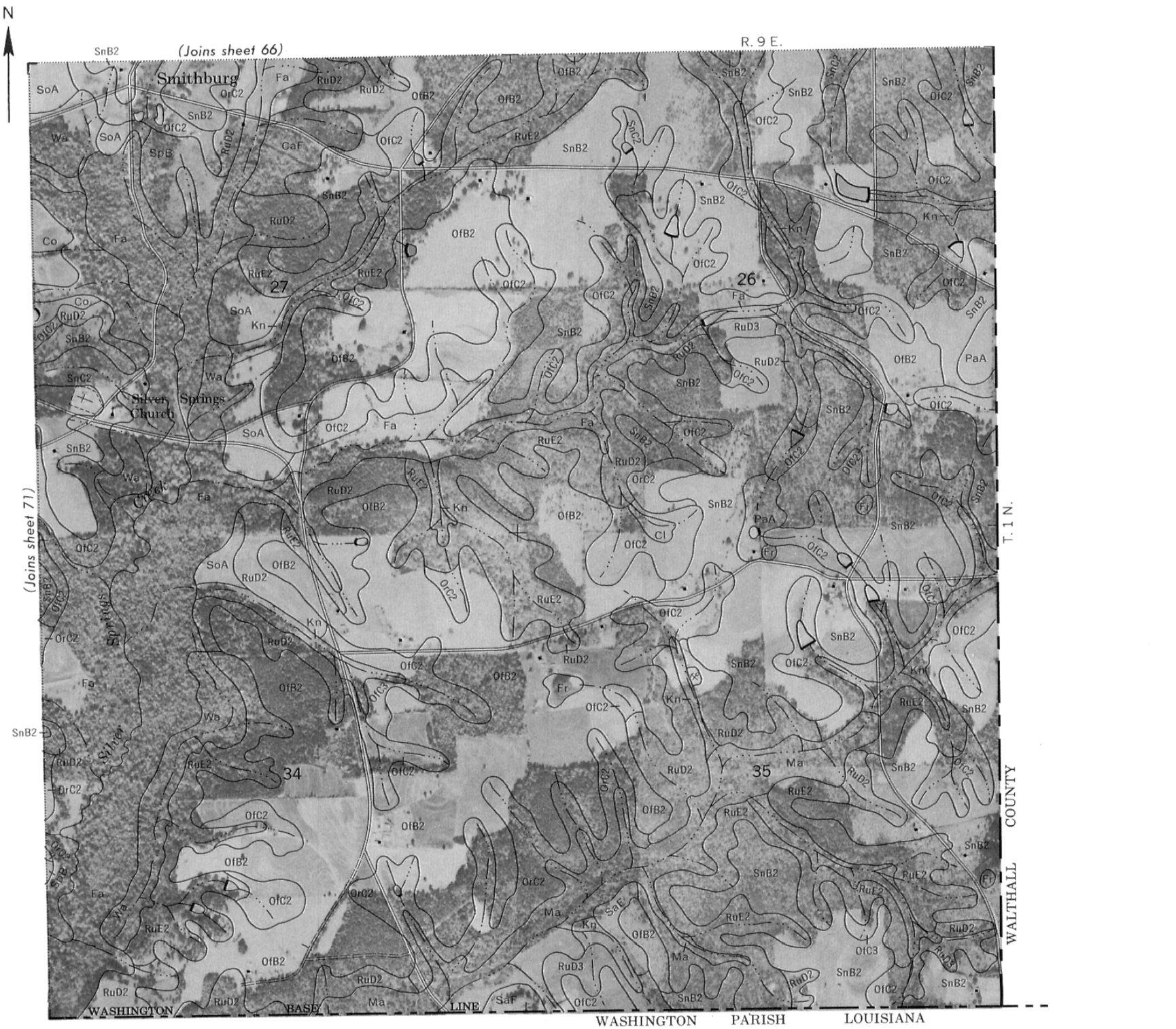
0 ½ Mile Scale 1:15 840 0 3000 Feet

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.



(72)


N
R. 9 E.
T. 1 N.
(Joins sheet 66)
(Joins sheet 71)
Smithburg
Silver Springs
Church
Rock
Springs
Silver
27
26
34
35
WASHINGTON PARISH
LOUISIANA
WALTHALL COUNTY
BASE LINE
0
½ Mile
Scale 1:15 840
0
3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 8

(8)

N

(Joins sheet 2)

R. 7 E.

T. 4 N.

(Joins sheet 7)

(Joins sheet 9)

(Joins sheet 14)

Pine Grove Church

Beaver Creek

Chatham Creek

CENTRAL ILLINOIS

15 14 13 22 23 24

0 ½ Mile Scale 1:15 840 0 3000 Feet

PIKE COUNTY, MISSISSIPPI — SHEET NUMBER 9

9

This map is one of a set compiled in 1966 as part of a soil survey by the Soil Conservation Service, United States Department of Agriculture, and the Mississippi Agricultural Experiment Station.

Range, township, and section corners shown on this map are indefinite.

0 ½ Mile Scale 1:15 840 0 3000 Feet